SCHOOL LIFE

Official Journal of the . . .

OFFICE OF EDUCATION

TEACHING TEACHERS OF DATA PROCESSING
Robert M. Knoebel

EFFORTS TO SOLVE THE PROBLEM OF DROPOUT
Monica Bayley

DECEMBER 1963

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JOHN FITZGERALD KENNEDY

FOR NEARLY THREE YEARS President Kennedy led us in the pursuit of a typically American vision—the vision of a world based on diversity, self-determination, and freedom, a world that only educated men can build. Today, by words Mr. Kennedy spoke last year before an audience of students and teachers, we are reminded of the work we must do now, this very afternoon, if this vision is to become reality:

"In the light of knowledge we must think and act not for the moment but for our time. I am reminded of the story of the great French Marshal Lyautey, who once asked his gardener to plant a tree. The gardener objected that the tree was slow-growing and would not reach maturity for a hundred years. The Marshal replied, 'In that case, there is no time to lose, plant it this afternoon.'

"Today a world of knowledge—a world of cooperation—a just and lasting peace—may be years away. But we have no time to lose. Let us plant our trees this afternoon."—*From an address in Berkeley at the University of California, March 23, 1963.*

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • ANTHONY J. CELEBREZZE, *Secretary*
OFFICE OF EDUCATION . . . FRANCIS KEPPEL, *Commissioner*
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Notes on the Notable

FEDERAL PROGRAMS AND ACTIVITIES

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Meeting on technical education

Vocational educators and administrators from 38 States, Puerto Rico, and the District of Columbia attended a meeting on public school technical education in Charlotte, N.C., on October 28–30, sponsored by the Office of Education.

The meeting focused on three basic aspects of technical education: The growing employment opportunities for skilled technicians; the need for revising curriculum and teacher education because of the demand for a new type of worker—one with high technical skill and a broad background in mathematics and science; and the trend toward extending public school education beyond the high school by providing technical education at the grade 13 and 14 levels and upgrading and refresher courses for adults.

According to participants, programs are turning out about 12,000 new technicians a year. To train the 80,000 new technicians who will probably be needed each year, vocational education authorities have revolutionized curriculums and teacher education methods. Beginning with the premise that a technician is as different from an engineer as he is from a skilled tradesman, schools have developed curriculum guides in cooperation with industry, engineering and scientific societies, and labor unions. These curriculums focus on practical application of mathematical and physical principles. The goal of technical programs is to train workers for scientific and engineering teams who can move directly into jobs and transfer easily among related assignments.

The shortage of teachers for technical education is being attacked by such programs as North Carolina's Operation Upgrade, which provides intensive, short-term teacher education programs for outstanding graduates of technical programs and experienced technicians with broad backgrounds in mathematics, chemistry, and physics.

Participants at the Charlotte meeting also discussed the lack of occupational information and guidance available to young people in the public schools, the opportunities for employment in technical fields and the qualifications required.

The Office of Education is preparing a report on the meeting which will contain the findings of the participants and their views on technical education.

$330,000 budgeted for research in teacher education

THE Cooperative Research Program of the Office of Education will set aside $330,000 in the current fiscal year, July 1963–June 1964, for research in teacher education. This allocation of funds will make possible the development of a project in teacher education similar in approach to those projects known as Project English, Project Social Studies, and the Talent Development Project.

This specific allocation does not limit Cooperative Research support for teacher education to $330,000, but it does have the advantage of making funds available for a degree of planning which would not be possible without the budgetary designation of a specific project.

Institutions and State departments of education are urged to submit project proposals for the last deadline date in the current fiscal year—March 1, 1964. If you are not familiar with the procedure followed in the awarding of Cooperative Research contracts, write to the Cooperative Research Program, U.S. Office of Education, Washington, D.C., 20202 for a copy of *COOPERATIVE RESEARCH PROGRAM — Application Instructions for Research Contracts* (OE–12017).

OE approves 1964–65 graduate fellowship programs

THE OFFICE OF EDUCATION has approved 694 graduate fellowship programs at 156 colleges and universities for the academic year 1964–65. By next spring 1,500 fellowships will have been awarded to students in these programs. All awards will go to students seeking doctoral degress in the humanities, social sciences, education, biological sciences, or engineering; and most of the awards will be for 3 years.

The Congress authorized funds for this program under the National Defense Education Act of 1958, title IV, in an effort to increase the number of well-trained college teachers. The 1964–65 fellowship awards and those continuing from previous years will cost approximately $20.7 million. The colleges and universities receive a cost of education payment of up to $2,500 for each fellow they enroll; fellows receive $2,000 for the first year; $2,200 for the second year, and $2,400 for the third year, plus an allowance of $400 for each dependent.

The 1964–65 fellowships will bring the number of awards made under the program to about 8,500 since the program began.

Manpower training: Progress report

As of November 30, 1963, 768 projects had been approved under the Manpower Development and Training Act of 1962 (P.L. 87–415) at a cost of $23,985,531. As of the same date, 78 projects had been approved under the Area Redevelopment Act of 1961 (87–27) at a cost of $771,725. Dur-

ing the month one State entered the MDTA program, bringing the total to 47 States; 165 projects were approved; and 11,137 persons began training. The average length of training courses was 29 weeks at an average cost per trainee of $637.

The Office of Education administers training programs under both acts.

Distributive education conference

State leaders of distributive education, including State supervisors, teacher educators, and selected city supervisors, from 42 States and the District of Columbia, Virgin Islands, Puerto Rico, and Guam met with members of the Division of Vocational and Technical Education in the Office of Education on October 14–18. The meeting was called to discuss developments in preparatory programs in distributive education and to redirect the course of current programs to better meet the demands on vocational education as identified by the President's Panel of Consultants on Vocational Education in its recent report to the President. The Office designed the program to assist supervisors and other distributive education leaders in State departments in the building of programs to serve the current and future needs of students in marketing and distribution.

Specialists in the Distributive Education Branch of the Division of Vocational and Technical Education spoke on such topics as the basis of occupational goals and evaluation, curriculum and instructional material, the vocational approach to instruction, teacher education, research, and program organization. Participants worked in one of four groups, one on each of the four types of people the President's Panel identified as needing vocational education: High school students, post-high school students, young people with particular academic or socioeconomic problems and needs, and employed persons, whether young or old, who need training or retraining in order to keep a satisfying place in the labor force.

The Distributive Education Branch of the Division is now preparing a report on the conference.

Staff accounting handbook in final draft

Representatives of 10 educational organizations met in Washington, October 23–25, for a final review of a handbook on staff accounting. For the past 3 years the organizations have been cooperating with the Office in preparing a handbook of terms and definitions for officials of State and local school systems to use in collecting and using information on school staffs. The final draft of the handbook, which will incorporate the representatives' suggestions, will be sent to them for approval and acceptance before it is published.

Allan R. Lichtenberger, Office specialist on standard terminology and definitions, and Richard Penrod, specialist in educational records and reports, are coordinating the work.

Brazilian educators see industrial education in practice

To observe what is being done in technical education classes is often as important as the theory to educators taking part in technical assistance programs sponsored by the Agency for International Development. The Office of Education, in arranging programs for AID participants, keeps this in mind.

A program now in progress for a group of 12 educators from Brazil is a good example of the combination of theory and practice in a technical assistance program. Members of the group are associated with Brazil's federal system of vocational schools and apprenticeship training program or with the Brazilian-American Commission for Industrial Education. They are interested in all types of industrial education at all levels, particularly in discovering practices that can be adapted to the needs of Brazil's economic development.

The group has attended a 3-week seminar at The University of Michigan at Ann Arbor which combined the study of industrial education with observation of school programs and industrial plants in the State and is now on a tour of industrial education programs and industrial plants in several mid-Western cities. Future plans call for the group to visit San Francisco and Los Angeles to study programs in junior colleges, the Emily Griffith Opportunity School and other institutions in or near Denver, and specialized technical schools in New York. The last event on their program before they return to Washington for a final evaluation will be the annual convention of the American Vocational Association.

Afghan women educators on teacher development program

Five women educators from Afghanistan are spending about 45 days in the United States observing schools, under the Department of State's international teacher development program through arrangements made by the Office of Education. They are the first group of women graduates of Kabul University. They represent elementary, secondary, and adult education and are vitally interested in literacy education and in organizations promoting the education and welfare of women. The Office has arranged a program of visits to elementary, secondary, and vocational schools and social institutions, such as an orphanage.

The leader of the group is the director of the Women's Institute of Afghanistan, which was established about 10 years ago to educate women who had reached adulthood before the country organized formal education for women. The Institute conducts a literacy program, but it also offers instruction in social work, home economics, kindergarten teaching, and secretarial training. Another member of the group is head of the Women's Enlightening Branch, one of the Institute's branches.

Provisions for handicapped children: P.L. 88–164

FIVE to 6 million school-age handicapped children in the United States require special education. Title III of Public Law 88–164, the Mental Retardation Facilities and Community Health Centers Construction Act of 1963, which became law on October 30, 1963, aims at providing them with better opportunities for education than those now available. The object of title III is to prepare qualified teachers for handicapped children and to develop teaching materials and techniques for use in teaching such children. It authorizes a program of grants-in-aid for the training of specialists in the field of teaching handicapped children and a program of research and demonstration projects in the education of handicapped children. To carry out these provisions, it authorizes the appropriation of $43 million over a 3-year period. Title III will be administered by the Office of Education.

P.L. 88–164 amends P.L. 85–962, enacted in 1958, an act authorizing grants (1) to nonprofit institutions of higher learning for the preparation of specialists to prepare teachers of mentally retarded children (2) to State educational agencies for the training of leaders in the education of handicapped children. P.L. 88–164 extends these provisions to include children who are hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled, or who have other health impairments. It also authorizes grants to nonprofit institutions to assist them in providing professional or advanced training of teachers or prospective teachers of handicapped children; supervisors of teachers of the handicapped; specialists, such as speech correctionists; and researchers in fields related to the education of the handicapped.

P.L. 88–164 authorizes training of teachers of deaf children through fiscal year 1964 under P.L. 87–276, a law which authorizes a grants-in-aid program "to encourage and facilitate the training of more teachers of the deaf." Beginning in fiscal year 1965 such training is authorized under other provisions of P.L. 88–164.

P.L. 88–164 authorizes the appropriation of $11.5 million for fiscal year 1964, $14.5 million for fiscal year 1965, and $19.5 million for fiscal year 1966 for this portion of the act.

In addition to amending P.L. 85–962 and P.L. 87–276, P.L. 88–164 authorizes the Commissioner of Education to make grants for research and demonstration projects to States, State or local educational agencies, public and nonprofit private institutions of higher learning, and other public or nonprofit private educational or research agencies and organizations working with handicapped children. It authorizes the appropriation of $2 million a year for 3 years for this provision.

The act requires the Commissioner of Education to obtain the advice and recommendations of panels of experts in evaluating research and demonstration projects.

The act will be administered by the Division of Handicapped Children and Youth, a new office in the Bureau of Educational Research and Development in the Office of Education, which Samuel A. Kirk will head. Dr. Kirk has been a teacher of the mentally retarded, research psychologist, remedial teacher, director of teacher training, and director of research, and is professor of psychology and special education at the University of Illinois and director of the Institute for Research on Exceptional Children. He received the first International Award of the Joseph P. Kennedy, Jr., Foundation last year.

As soon as application blanks for grants for research and demonstration projects are available and the rules and regulations governing the administration of this provision of the act are completed, the Office of Education will send out information to organizations and agencies concerned with handicapped children. The first grants under this section will probably be made before June 30, 1964.

Juvenile delinquency conference

Participants in a Washington conference in October on juvenile delinquency pointed out that the school cannot meet its great responsibilities in the fight against juvenile delinquency without the support of other community agencies and the community itself. The conference was called by the President's Committee on Juvenile Delinquency and Youth Crimes and the Office of Education for the purpose of reviewing juvenile delinquency projects receiving support from the Federal Government. More than 40 representatives of such projects met with representatives of Federal agencies responsible for juvenile delinquency programs, including the Department of Labor and the Children's Bureau, as well as the President's Committee and the Office of Education.

In relation to the school's responsibility in the fight against juvenile delinquency, participants discussed the need for—

1. Well-trained teachers.
2. Inservice training programs for teachers and school administrators.
3. Communities alert to the fact that the school cannot win the battle alone.
4. Community schools to meet the needs of all age groups for education.
5. Special programs for students not planning to attend college.
6. More flexible school administration.
7. Extensive compensatory education programs and services for depressed urban and rural areas.

The Federal Government supports juvenile delinquency programs through Public Law 87–274, the Juvenile Delinquency and Youth Offenses Control Act of 1961. For a description of the projects Public Law 87–274 supports, see *School Life*, November 1963, page 6.

Language and area centers: 1964 summer programs

APPROXIMATELY $250,000 in Federal funds (NDEA—title VI) has been allocated to 1964 summer programs in modern foreign languages. NDEA language and area centers at 20 universities will conduct 22 programs in 27 languages critically needed but not commonly taught in the United States. The universities pay half the cost of operating the programs.

Awards to participate in the program will be made to about 600 qualified students; approximately 200 will be undergraduates, and 400 will be graduate students. Each student may receive the equivalent of a full year's course in language and related area studies. The languages represent seven areas of the world: five programs in Far Eastern languages; five in Slavic and East European; three each in South Asian, Near and Middle Eastern, and Latin American; two in Southeast Asian; and one in Sub-Saharan African.

Selected Vietnamese on AID program

The Technical Training Section of the Office of Education is supervising a program of training for a carefully selected group of 51 students from Vietnam on a project sponsored by the Government of Vietnam and the Agency for International Development. Participants, who have completed 12 or 13 years of education, will receive training in special fields for which adequate undergraduate facilities are not yet available in Vietnam. On completing their training, they plan to join the faculty of Vietnamese universities or the staff of government agencies.

The programs arranged by the Office lead to the bachelor of arts or the bachelor of science degrees and will take 3 to 4 years. They will be renewed each year, however, depending on the attainment of the participants and the recommendations of the institutions where they are studying.

Participants are studying in such fields as engineering (including nuclear, mechanical, chemical, electrical, hydroelectric, marine, textile, sanitary, and industrial chemical), banking, economics, botany, business administration, clothing and textiles, institutional management, and electronics. They are enrolled at 15 institutions in 12 States: Miami University, University of Oregon, Baldwin-Wallace College, Western Reserve University, Oklahoma State University, Texas Technological College, University of Utah, University of Florida, Simpson College, the Milwaukee School of Engineering, University of Michigan, University of Tennessee, University of Cincinnati, San Diego State College, and Montana State College.

The project should provide Vietnam with a corps of trained teachers, engineers, and scientists who, in turn, will assist in the development of education throughout the country.

Kenyans studying teacher organizations

The Kenyan National Union of Teachers has sent a group of its officers to the United States to study professional and labor organizations for teachers, through a program arranged by the Office of Education for the Agency for International Development. The 8-man group is interested in studying the way such organizations help the teacher to better his lot as a worker and develop his proficiency as a teacher, two of the purposes of their organization.

The Technical Training Section of the Office has arranged a 4-month program for the group which includes formal study and visits to teacher organizations. The group is now at a 4-week seminar at the University of Wisconsin-Milwaukee studying teacher education and the history and philosophy of U.S. education. In addition, they are studying the work of local teacher organizations and other groups that sponsor education activities in and near Milwaukee.

NSF summer institutes

THE DEADLINE for submitting applications for the 1964 summer institutes sponsored by the National Science Foundation for teachers of science and mathematics in secondary schools and teachers of science, mathematics, and engineering at the college level is February 15, 1964. Application must be made to the sponsoring institutions not to the Foundation; a list of participating institutions is available from the Foundation (Washington, D.C., 20550). Institutes offer teachers an opportunity to improve their proficiency in and knowledge of the subject they teach.

Participants in an institute receive stipends of up to $75 a week, allowances for dependents up to four, and travel allowances.

Second Kennedy volume

In his foreword to the 1962 volume of the *Public Papers of the Presidents of the United States* John F. Kennedy says that "future historians . . . may well mark this year as the time when the tide of international politics began at last to flow strongly toward the world of diversity and freedom."

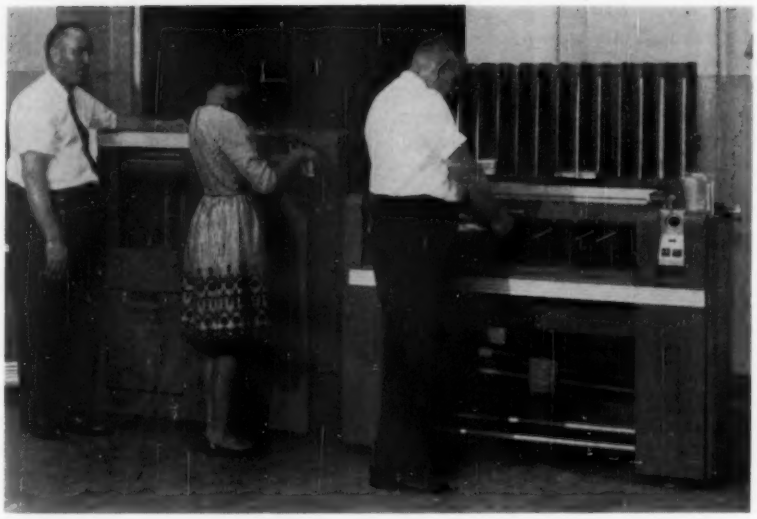
The 1962 volume includes transcripts of President Kennedy's news conferences, speeches, messages to Congress, and other materials issued by the White House between January 1 and December 31, 1962. It contains reports on the Cuban crisis and nuclear testing and disarmament; messages to Congress on education, health, and foreign aid; and joint statements with foreign leaders.

The series of Presidential public papers also contains volumes on the 8 years of the administration of Dwight D. Eisenhower, the first 2 years of Harry S. Truman's, and the first year of Mr. Kennedy's. The series is being prepared by the National Archives and Record Services of the General Services Administration. They are obtainable from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. Prices vary. The 1962 edition is priced at $9.

A Plan for Teaching Teachers of Data Processing

ROBERT M. KNOEBEL

The institutes described here are part of one of the new public vocational education programs supported with Federal funds under Title VIII of the National Defense Education Act. Demands both from teachers who want to teach electronic data processing and from businesses and industry who need programers and other workers in this field have pointed up the need for preparing teachers as soon as possible.



At Milwaukee Institute of Technology. Participants in the seminar learn the basic skills of operating punch card equipment.

ABOUT 100 teachers of electronic data processing are teaching the subject this year because they had access last summer to one or another of five institutes offering an intensive program designed specifically to meet their needs.

These institutes, which were the result of a joining of forces by five State boards of education and five educational institutions, were held as a head-on attack on a severe teacher shortage in one of the newest fields in vocational education. That the shortage was universal became clear last winter, at a series of seven regional conferences attended by nearly 500 State and local educators. Some States reported that in certain localities the demand for teachers of computer programing and business application analysis is so heavy that they have had to abandon any ideas they might have had of waiting for the usual teacher education programs to produce the specialized instructors.

State and local participants alike at these conferences turned to representatives of the Technical Education Branch of the Office of Education for help in devising a speedy method of preparing teachers. Even before the conferences were over the decision had been made to investigate the feasibility of establishing short, intensive courses which would be offered as summer institutes to prepare carefully selected teachers. Through informal consultation with educators, employers, and manufacturers of equipment, the Office of Education found firm support for the idea that intensive summer programs could satisfactorily cover the basic specialized courses which had been outlined in a suggested curriculum guide published by the Office early in 1963—a guide to a 2-year post-high-school curriculum for computer programers and business application analysts.

Mr. Knoebel is acting director of the Technical Education Branch, Office of Education. He came to the Office in 1959 from The Pennsylvania State University where he was an associate professor of industrial education. He has been a high school teacher, a local director of vocational education, and a teacher educator.

Planning the Institutes

The first step in carrying out the summer institute plans was to establish requirements for candidates. The consensus among State and local administrators was that only persons with a double set of qualifications would be suitable—that is, persons with experience both as teachers and as workers in the field of business or office occupations. Such persons would bring with them an understanding of the methods and philosophy of education and would be familiar as well with the day-to-day operations of a business office and would be able to acquire the technique of business data processing in a short course of intensive training.

More specific requirements as to the qualifications of candidates were spelled out later by an advisory committee which met in Washington for 3 days in the spring to plan the teacher-education program in detail—to suggest curriculum, consider entrance standards, plan funding proce-

dures, and consider the possibilities of carrying out a research project in connection with the institutes. The criteria established by this committee to guide persons who would select students for the institutes required each student to—

1. Have a B.S. degree or its equivalent in business education, preferably with approximately 1 year of accounting.
2. Have had at least 3 years of teaching or work experience in business, preferably in accounting, business mathematics, business law, or office procedures.
3. Be currently employed as a business teacher or a business department chairman or have an equivalent position requiring current knowledge of business.
4. Be available for a teaching assignment in a title VIII program.
5. Be capable of qualifying, on completion of the institute, as a teacher of business data processing in a title VIII program under the State plan for vocational education.

The second step in the planning was to obtain from the States an accurate estimate of the number of teachers needed for electronics data processing programs contemplated for the following school term.

The Office of Education, which has played no other role in this matter than to encourage the States and assist in facilitating an exchange of views and plans, sent out a questionnaire that revealed the need for about 200 teachers for programs in electronic data processing—enough to justify plans for at least five summer institutes.

When it came to the third step—determining where the institutes would be held—13 States came forward with offers from public colleges and other institutions to cooperate with the State vocational education agencies in conducting the institutes.

From the 13, 5 institutions were selected. On such bases as geographic location, availability of facilities and

At Colorado State University. Mr. Devenney illustrates an idea to his class.

At Miami-Dade Junior College. A student at the data-processing institute carries out a key-punch assignment.

At the Central Industrial Education Center, Charlotte, N.C. Students at the institute learn to write and execute programs on the 1620 computer.

At Orange Coast College, Costa Mesa, Calif. This building, which cost $185,000, was built for the sole purpose of housing a training program for work in data processing.

staff, quality of facilities and staff, and experience in the field of electronic data processing in the preparation of programers and business application analysts, the following institutions were selected: Miami-Dade Junior College, Miami, Fla.; Central Industrial Education Center, Charlotte, N.C.; Milwaukee Institute of Technology, Milwaukee, Wis.; Colorado State University, Fort Collins, Colo.; and Orange Coast College, Costa Mesa, Calif.

The fourth step—determining the curriculum—was taken with the aid of the advisory committee already mentioned. The content selected was based on four specialized courses in the Office of Education's suggested curriculum guide: An introduction to business data processing, a course on electric accounting machines, a course on the applications of data processing, and the basic course in computer programing. In addition, emphasis was given to methods of teaching the various subjects.

Teachers of the institutes met together for 2 days before the institutes opened, to discuss details of curriculum, lesson plans, visual aids, and special teaching techniques.

Preliminary selection of the candidates for the data-processing institutes was made by the State directors of vocational education. A committee appointed by the institute directors reviewed applications and made the final selections.

The Study Program

The 8-week programs began soon after the close of the spring school term, with 125 participants from 29 States.

Experts from industry, business, and government gave instruction in special phases of the curriculum. The regular instructional program was supplemented by field trips to computer installations, where actual applications of data processing were observed at close range; and by weekly seminars, which gave students opportunities to meet with specialists in electronic data processing and to become acquainted with the philosophy and principles of vocational education. Each student spent approximately 280 hours in class and laboratory; his schedule called for 7 to 8 hours a day, 5 days a week.

Financing the Institutes

Most States provided travel and cost-of-living allowances to their participants, while the five host States matched Federal funds granted under the National Defense Education Act to meet operational costs. Tuition was free, but participants who wished to get college credits for the institute paid the usual fees.

There were more applicants for the institutes than there were funds to support them. One State, which had funds for 5 participants, found itself with 19 applicants. Three of these paid their own expenses in order to attend. Two teachers in a State which was prevented by its own regulations from providing financial assistance also paid all their own expenses.

A number of local school districts gave financial assistance to participants. In a number of States special arrangements and unusual efforts were made to support students at the institutes.

End Results

Most of the participants who completed the institutes are now teaching electronic data processing in the districts from which they came. Others are helping to plan for the inauguration of such programs in their schools within the next year or two. And most of them, according to reports, are eager to continue their program next summer to qualify for teaching advanced courses in the data processing curriculum.

A meeting was held on October 3 and 4 to review and evaluate the institutes and to plan for the second phase of the program in 1964. The meeting was attended by the directors of vocational education or their representatives from States where the institutes were held; the directors of the institutes; the teachers; representatives of business-data-processing associations, manufacturers of data-processing equipment, and employers; and educators interested in this field. Plans are being completed for similar institutes in 1964. The offerings will consist of two programs: First year, for those who did not attend the 1963 institutes, and second year, primarily for the participants of the 1963 institutes.

A Side Benefit: Research

The institutes have been the basis for a project designed to investigate how certain personal and environmental factors may be associated with achievement in learning and applying

knowledge and skill in electronic data processing. This study, which was initiated by Kenneth F. Herrold, Teachers College, Columbia University, will be completed early in 1966. The funds are being provided by the several States supporting the data processing institutes.

A Summing Up

The teacher education program in data processing reflects the increasing cooperation between and among the States, with help from the Office of Education, to solve some of the dilemmas in education that have no geographic boundaries.

The needs, views, advice, and reactions of business and industry are important factors in the planning of vocational education programs. Not only is the preparation of teachers to train the students a matter of increasing interest to the industrial community; but, in fields as new as electronic data processing, vocational education cannot measure the effectiveness of programs without the appraisal of the people who will be hiring its students. The evaluations of vocational education must often be compiled from the reactions of business and industrial representatives. For future planning, it is important to know how the summer institutes for teachers of data processing have been judged.

Fortunately, these first institutes have been favorably judged. One industrial representative said, for example, "These institutes are one of the greatest advances in public education in recent years." From other reactions the Office has heard, he expresses a consensus.

The End Product

The person who will be trained by teachers completing the summer institutes described on these pages is called a Programer, Business Data Processing. He analyzes business problems and, in the search for solutions, prepares programs that will direct and control the processing of data through electronic equipment. He designs flow charts and diagrams indicating mathematical computations and the sequence of machine operations necessary to process data and print the solution. His entry job may be that of Junior Programer, Business Data Processing. As he progresses in his work he may advance to being Programer and with experience and further preparation become a Systems Analyst.

Next Summer's Institutes in Data Processing

SIX INSTITUTES in data processing have been scheduled for the summer of 1964. The institutes will offer training especially designed for teachers of the 2-year preparatory curriculum in data processing for business. The 1964 institutes, like those in 1963, will receive Federal support under the National Defense Education Act, title VIII, and are conducted in cooperation with the participating institutions, the State boards of vocational education, and the OE Division of Vocational and Technical Education. The institutions, directors and their positions, and dates of the 1964 summer institutes are listed below:

Orange Coast College, Costa Mesa, Calif., Norman E. Watson, vice president, June 22 to August 14;

Colorado State University, Fort Collins, Forest C. Carter, head, department of business, June 15 to August 7;

Miami-Dade Junior College, Miami, Fla., Theodore A. Koschler, dean, technical studies, June 15 to August 7;

Asheville Technical Institute, Asheville, N.C., Thomas W. Simpson, director, June 22 to August 14;

Burlington Technical Institute, Burlington, N.C., William E. Taylor, director, June 22 to August 14; and

Milwaukee Institute of Technology, Milwaukee, William E. Breese, faculty counselor, June 15 to August 7.

Last summer's seminars, the ones Mr. Knoebel describes in the article above, were confined to programs for persons who would teach the first year of the 2-year curriculum in data processing. But next summer's institutes will include programs for the second year; these have been planned primarily for persons who attended one of last year's seminars.

Both the first-year and the second-year programs will be offered at Orange Coast College, Colorado State University, Miami-Dade Junior College, and the Milwaukee Institute of Technology. The first year only will be offered at Asheville; the second year only, at Burlington.

Participants in next summer's institutes will be selected on the same basis as those in 1963. Participants will pay no tuition but may be required to pay a fee if they wish to receive college credit (persons desiring credit should get specific information from the director of the institute they plan to attend). Some participants may receive per diem payments and certain travel allowances from their State Board for Vocational Education, but no stipends or cost-of-living or travel allowances will be available from any of the institutes.

Further information on the institutes and application forms are available from State directors of vocational education and directors of the institutes. Forms should be completed in duplicate; should be signed not only by the applicant but by the State director of vocational education, whose recommendation each applicant must have in order to be considered; and should be forwarded to the director of the institute. Applications will be processed as they are received. The deadline for filing applications is May 1, 1964.

A Renewed Effort to Solve the Problem of Dropout

A report on the response to the President's letter

MONICA BAYLEY

Last July 12 President Kennedy sent a letter to heads of governing boards of colleges and universities and to administrators of school districts across the country and asked them to renew their efforts to persuade those who had withdrawn from school to return in the fall. He also asked them to send reports of their progress to U.S. Commissioner of Education Keppel by the end of September.

The replies that have poured into the Office of Education since the middle of August indicate that the educators of this country have an overwhelming concern for the problem of seeing that every child gets an education. By the end of September a substantial percentage of the school districts and institutions of higher education had responded, telling of local plans to support the back-to-school campaign, describing past efforts, and laying out imaginative plans for the future. These responses have provided the material for the article that follows.

The activities described here should not be confused with later projects made possible by allocations to various cities from the President's emergency fund for this past summer's dropout program. Although some of the cities mentioned here did receive funds later for "crash" programs, most of the activities described either were under way by the time the President's letter was received, or were started immediately afterward. What was accomplished through the special efforts supported with the Presidential funds will be analyzed in a later report.

WHAT IS BEING DONE for the young people who, for a multiplicity of reasons, have stopped school short of high school graduation and are now designated by the brief and ominous term *dropout?*

The whole story cannot yet be put together, for it is being written chapter by chapter in school and town meetings, in classrooms and legislative halls. All over America people are taking steps toward solving the problem. Communities, States, and, of late, Federal agencies are spending time, effort, and money to find means of preventing dropouts and to provide training and direction for those who have already left school.

Fifty-seven percent of the districts that have responded to the President's letter report special programs to meet the dropout problem. Eleven percent say that they inaugurated programs after they received the letter.

THE HIGHEST RESPONSE has come from the largest cities, and many administrators of big city school systems not only describe their present programs but go on to describe plans for the future.

New York City points out four programs it considers successful.

(1) STEP (School to Employment Program, which was established by the State legislature in 1960 and which provides funds for seven experimental projects in seven large New York cities). The project in New York City was started in two schools but has been extended to a dozen. It combines three elements—individual guidance, a suitable curriculum, and a job.

In New York City each group of 20 sophomores who are considered potential dropouts are assigned to a teacher coordinator, who spends 2 periods with them every morning teaching basic skills with the aid of special curricular material. For the rest of the morning they attend regular high school classes. In the afternoon they work at neighborhood jobs at which they are supervised, for which they are paid, and for which they receive credit at the end of the term. Students who cannot get part-time jobs are paid a stipend from program funds.

(2) The Co-op program. In 1960 Mayor Wagner in cooperation with the board of education, the personnel division of the City of New York, and the Youth Mobilization Council instituted a plan by which students from difficult environments can get work experience in municipal agencies while they are still in school.

3. Operation Return. Under this program, which was begun in September 1962, two Manhattan high schools are serving as day academic high schools for students who have left high school and will be unable to complete a high school course before their 21st birthday. The program is open to dropouts from all kinds of high schools and is working well.

4. Higher Horizons Programs. This program was launched in 1956 in a junior high school in a slum area. It attacks the dropout problem from 3 directions—through improvement of guidance services, enrichment of the child's cultural life, and education for parents in low socio-economic neighborhoods—and provides remedial classes and after-school study programs. It has been so successful in reducing the dropout rate—40 percent more pupils than previously are finishing high school—that projects modeled on this one have

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been started in Detroit, Chicago, Milwaukee, Philadelphia, Pittsburgh, St. Louis, and Washington, D.C.

New York City continues to seek new solutions to the dropout problem. When it received its allocation from the President's Emergency Fund, it was ready with plans for two programs—a summer daytime guidance program for potential dropouts and an evening school guidance program.

Columbus, Ohio, which has a student population of 93,000, is working from the premise that the best way to combat the dropout problem is to make broad improvements in the school program. The schools there have made gratifying progress: In 1950, their dropout rate was one pupil out of two; currently the rate is one out of three. They are determined to improve this record. As factors in their success they cite a strengthened and diversified instructional program; smaller classes; an expanded staff of counselors, visiting teachers, and psychologists; new administrative policies including provision for an inservice program for teachers—courses, workshops, and institutes; establishment, at widely distributed centers, of summer courses in reading and arithmetic for pupils in grades 4 through 9; and encouragement of research on dropouts.

Chicago reports that this fall, as part of its established "back-to-school" campaign, it held special orientation days for pupils at the elementary and first-year-high-school levels, and employed attendance officers for an additional week prior to the opening of school to encourage potential dropouts to return.

Washington, D.C., conducted a summer campaign in which all high school officers were asked to visit the homes of students, to work with families and community agencies, and to set goals for the number of dropouts they might get to return to school. For a number of years the District of Columbia has conducted a "quality education" program designed to improve instruction and prevent dropouts. The program covers a variety of methods and projects: Ability grouping, library improvement, basic education (the Amidon plan), a talent search project at the junior-senior-high-school level, a job-conditioning program, special language instruction, scholarships, home instruction for the mentally disturbed, and a therapeutic center for boys who have been dismissed from school as behavior cases.

One junior high school in a project for dropout-prone pupils makes special efforts to give remedial instruction, counsel pupils and their families, and make a work-study plan. It also provides a warm breakfast.

Despite all this, Washington estimated that as of June 30, 1963, it had 4,100 unemployed out-of-school young people between the ages of 16 and 21; most of them were male, and most had been out of school for 2 or 3 years and had been unable to find satisfactory employment. By August 1 the Department of Adult Education, Vocational Education, and Summer Schools was operating a number of evening schools and a Youth Vocational Project (under the Manpower Development and Training Act), and had made plans to start eight more training courses in the fall.

MANY SCHOOL DISTRICTS report *new* local efforts to support the national campaign.

In *Los Angeles,* the Board of Education on August 1 approved a pilot project in a senior high school that had a high dropout rate; on August 12 it established another in a second senior high school. In addition, special community groups were formed throughout the city, and bulletins were sent through 1,300 teachers to more than 39,000 students.

In *Atlanta,* American Legion Post No. 1 has approved spending $3,000 of its budget to provide scholarships for the stay-in-school campaign.

In *Boston,* the school committee planned a stay-in-school week starting August 25. Some 1,600 letters were sent to the previous year's high school dropouts, inviting them to attend guidance clinics set up by the school system's vocational guidance department in 6 high schools. Dropouts were offered a new chance to return to school, to get training for a better job, or to obtain part-time or full-time employment.

In *Miami,* school officials have been concerned about the fact that the class graduating from high school in June should have had 2,500 more members than it did. On July 30 the school board called a first-of-its-kind meeting: educators, local government officials, and other community leaders met to map both an emergency and a continuing countywide campaign against dropouts (the Miami district includes all of Dade County, which has a school population of about 190,000). The meeting resulted in the proposal of several measures: Changing the curriculum to meet the needs and stir the interest of potential dropouts, expanding the community school evening classes in "depressed" areas, improving reading instruction in the lower grades, establishing free nursery schools and kindergartens at key points and getting volunteer workers to take the place of older children as babysitters for working mothers, asking good students to tutor slow ones in their own schools, and assigning more visiting teachers.

In *Kewanee, Ill.,* Community Unit District 29 is trying something new this fall: for students who come into high school with poor grade school records it is providing a special curriculum designed to build up their confidence and encourage them to try harder.

In *Winnetka, Ill.,* the New Trier Township High School is supplementing its regular offering of four to five courses in each major academic subject in each grade level (each course is designed to serve a particular level of scholastic aptitude) with a special course combining English and social studies—a course designed for the "reluctant learner," the student whom the school has found most likely to drop out.

Paterson, N.J., is offering a pro-

gram with several features: More time for teachers to aid students, a revised marking system based on a better technique for evaluating the students' work, a fine-arts curriculum, a complete guidance program, and a reading center for students who read below their grade level. The program includes a study in which exploratory work is being done to learn more about the personal characteristics of dropouts, so that the schools will have additional information to help them identify potential dropouts early.

The program also includes guidance from the kindergarten through the 12th grade. A full-time director of the evening school program has been added to the staff. He plans his daily program in coordination with the high school principals so that he can interview each student who decides to leave school, and to do so *the minute the student's decision becomes known to the principal;* the purpose is to get the student registered for evening school before he leaves day school. The Paterson schools also have made two additions to their technical and vocational evening program: an apprenticeship program, in which over 1,000 students are enrolled, and a pre-employment program.

In *Pittsburgh* the school system has identified the 10 secondary schools with the highest dropout rate. Counselors in these schools met in orientation sessions at the end of July to prepare themselves for 5 days of intensive counseling of the dropouts and their parents in August.

In *Philadelphia* the Chamber of Commerce, in cooperation with the board of education, this past summer waged an all-out campaign to convince dropouts to return to school. The Chamber had previously initiated a program of job retraining but did not consider it a substitute for "the strong educational foundation every teenager should gain by completing high school." The Chamber pointed out evidence of the connection between dropouts and large-scale unemployment: Out of a total of 7,000 dropouts in the city the previous school year, only 1,728 had jobs.

In *Detroit* a full-scale stay-in-school campaign was launched in August by the Women's Advertising Club in cooperation with the board of education. It was timed to start when the superintendent of schools announced that counselors would be available to work with 2,700 dropouts and several hundred potential dropouts. Weeks of volunteer planning and work by public information specialists, artists, copywriters, and researchers went into the campaign. Newspapers, announcements on radio and television, bus cards, and displays were used to alert the city. Fact sheets were widely distributed to announce the vocational training opportunities offered by the schools and the classes that students could attend and still be employed part time.

The *Colorado Springs, Colo.*, schools have a special program for the educable mentally handicapped that has substantially reduced the number of withdrawals from school. The program has been in operation for 9 years; it began at the elementary level, was extended through the senior high school, and this year graduated a number of students.

The *Pasadena, Calif.*, schools initiated project HOPE (Higher Opportunities in Pasadena Education) nearly 3 years ago to provide special educational opportunities and additional services for boys and girls with cultural and educational handicaps. Under this project the schools have worked out a team approach to the problems of the non-verbal, chronically low-achieving student. A team of three teachers at each of three

Keeping students in school—the end and the means

THE RESPONSES TO THE PRESIDENT'S LETTER have been most encouraging. They indicate that all over the country people are awaking to the serious social problems implicit in the dropout statistics and are taking action to prevent students from dropping out of school. After reading hundreds of replies, however, I have two reasons for concern.

One is that by emphasizing the dropout problem we may be led into thinking that any action which keeps youngsters in school is in itself good. The fundamental goal is not merely to keep children in school but to educate them. The test of success, therefore, is not merely the reduction of the dropout rate but the improvement of the educational product. Staying in school is but a means to an end—not an end in itself.

My second worry is the degree to which the replies reveal a reliance upon vocational education as *the* solution to the dropout problem. Those who drop out more than likely have had difficulty in the fundamentals of reading, mathematics, and logical thinking; merely shunting them into job training is no solution. It is true that a good vocational program with high quality basic education built into it is often the best way to help a youngster gain a good education, but frequently the use of vocational education to keep a youngster in school covers up the fact that he has failed to acquire proficiency in the fundamental skills. This is as much a travesty of good vocational training as it is of the true meaning of "staying in school." We misuse vocational education when we look to it alone to solve the problem; our reliance on it should not be allowed to divert us from the real, but admittedly difficult, problem of finding ways to educate where we have failed before.—FRANCIS KEPPEL, *U.S. Commissioner of Education.*

grade levels—10th, 11th, and 12th—both provides guidance and teaches academic subjects. The results are positive; students react favorably. Some students have progressed enough to return to regular classes; and since this team effort began, in February 1962, there have been almost no disciplinary referrals. In January 1963 the superintendent of schools, with the approval of the board of education, appointed an advisory committee of lay citizens and educators; this committee has developed a plan by which the community helps to provide cultural opportunities for disadvantaged children.

In *Keokuk, Iowa*, the Community School District has begun an extensive program called "Operation Concern," in which it continually evaluates and reevaluates its attempts to solve the dropout problem. The program is based on the idea that schools should take the initiative in marshaling family and community resources to reduce the students' failures and the school's shortcomings in meeting students' needs.

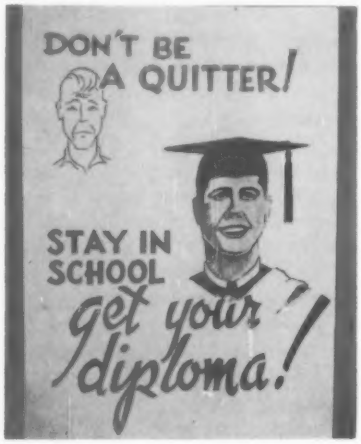
In *Chatham, N.J.*, the president of the board of education has proposed a plan to encourage all dropouts who have neither a diploma nor an employable skill to obtain one or the other or both before they reach age 25. The plan calls for identification of all students who dropped out over the past 10 years, assignment of counselors to work with them, arrangements with other schools or training institutions to assist the program, and periodic progress reports to local school authorities.

Lower Burell, Pa., has expanded transportation facilities to include jitney service to remote rural areas that have school-age population. Young people in these areas can no longer use "lack of transportation" as an excuse for dropping out.

In *Dunkirk, N.Y.*, the public schools have assigned teachers who speak Spanish to help Puerto Rican students overcome their educational problems.

In *Melbourne, Fla.*, members of the high school student council have worked out a plan for counseling classmates who have been spotted as potential dropouts. This past year they retrieved 6 of the 18 they had set out to help.

In *Plymouth, Mich.*, the Y.M.C.A. this past summer provided funds to enable a high school counselor to spend the summer working with dropouts, unemployed young people, and disadvantaged persons of all ages.



Many schools use posters in their summer campaigns to get dropouts to return to school. This one comes from the Cedarhurst, N.Y., schools.

RECOMMENDATIONS FROM ADMINISTRATORS both of school districts and of institutions of higher education indicate much enthusiasm for more vocational training. Such training at both the high school and the junior college levels will do much, they say, to relieve the shortage of technicians and to solve the dropout problem. Many districts are exploring the possibility of establishing, in cooperation with local industries, technical schools to serve large areas whose people need technical training and retraining. Reports to the Commissioner contain such comments as those quoted or described here.

Fairview, N.J.: "It is our firm belief that there are not sufficient facilities for vocational training in our area. Existing vocational schools are very selective and we find only those with a relatively high academic standing are accepted. This inequity would be greatly reduced and the opportunities for many applicants equally enhanced, if there were more schools for vocational training. If federal aid could be extended to these areas, there is no question that there would be a significant reduction in the number of dropouts and equal opportunity for all."

Berkeley Heights, N.J.: "Students who are sincerely committed to a definite vocational or educational objective generally do not drop out of school. This commitment must be a valid one—the result of considered action based upon pupil desire and capability, parental involvement, and the recommendations of qualified guidance personnel and, where necessary, the school psychologist—if each student is to be assured a reasonable chance for success."

Dearborn, Mich.: "We feel that the greatest need in this field is not simply to encourage students to remain in school, but to provide programs which will make it possible for them to remain." This district selected, for interviewing, 400 persons—both graduates and dropouts—who had been enrolled as ninth-graders in 1954–55 or 1957–58. The interviewers sought to find out how these persons had reacted to their curriculums and what had happened to them after leaving school. This fall the findings are being given to a vocational advisory committee, made up of lay members and school staff, for use in evaluating the district's vocational education program. In the light of the findings, a group of representatives of business, labor, and industry will inspect facilities, review offerings, and suggest changes.

Olean, N.Y.: "The Olean City Schools, together with some 30 neighboring school districts, are unanimous in recognizing the critical need for the establishment of an area technical and vocational school in Cattaraugus County. This would include all of Cattaraugus County and the western part of Allegany County serving a

total school population of approximately 18,000 students."

Freeport, Ill.: "An increased vocational program" is one of the means by which the school board here hopes to combat the dropout problem. An addition is being made to the school plant to house a new program of power mechanics and an electronics laboratory.

North Andover, Mass.: "To meet the needs of students who find no significant training program in our general high schools," this district is establishing a new regional vocational high school.

Fairbanks, Alaska: "It is also clear to the board that the opportunities for vocational training within the public schools are limited." The district is expanding this program: it is hiring a director of vocational education, initiating an adult education program, and creating a citizens' advisory committee to work with the professional staff.

Colorado Springs, Colo.: "Among all the various procedures used to combat dropout, the most effective one has been . . . our vocational and industrial arts program, both the school program and the evening program for adults, who in many instances are former high school dropouts."

MANY WORK-STUDY PROGRAMS, either in progress or planned, are described in the replies to the President's letter. Students in these programs attend school part of the day and work the rest; they receive credit for satisfactory job performances, and some are paid for the work they do. They are counseled throughout their course of study. Most projects of this type require the cooperation of school authorities, parents, and officials of local industries and business firms to make the jobs available. Some examples follow:

Southfield, Mich., initiated a work-study program in September in cooperation with the Bell Telephone Company. Ten girl students are enrolled in the program.

Washington, D.C., has a special junior high school project for dropout-prone students. Students spend half of each day getting practical training in printing, electrical work, or domestic work. Some work as nursery aides and hospital attendants.

Canton, Ohio, in September added to its school system a diversified work experience program for selected students with low academic ratings and students in special education programs. The spokesman for Canton says: "Schools must take the initiative in creating an attitude of respect for and interest in service occupations such as those of laundry worker, chef, waiter, and barber. Through such means as job definitions and on-the-job experience, potential dropouts can be convinced that service occupations are essential to American's welfare. Canton's school system, which has a student population of almost 23,000, includes, in addition to 27 elementary schools and 3 comprehensive senior high schools, a vocational high school, a technical institute for persons in the 13th and 14th grades, an adult evening school with a high school division, and an extensive summer program.

The Elkton-Pigeon-Bay Port District, Huron County, Mich., has begun a program in cooperation with local industry. Seniors in the program work half of each day as apprentices under the supervision of an instructor.

Union Township High, Union, N.Y., permits seniors in a special program to work as apprentices in the afternoon. Eight local firms are cooperating. Students are paid at the same rate as regular apprentices and are assigned to work that is "interesting, not just simple or repetitive."

IN COLLEGES AND UNIVERSITIES, the replies indicate, the dropout problem is not acute as it is in most high schools. Many institutions of higher education are trying to help the high schools in their own communities, as these examples show:

Lehigh University, Rochester Institute of Technology, Lake Forest College, and *Franklin and Marshall College* all have initiated projects in which their students tutor potential high school dropouts.

Eastern Michigan University this year sponsored a 2-week presummer session workshop to review research on high school dropouts. A published report from the workshop provides a comprehensive survey of the characteristics of dropouts, the reasons for their leaving school, the attitudes of parents, employment opportunities, job satisfactions and dissatisfactions, leisure-time activities, and continuing education.

At Fordham University the school of education plans to have all student teachers work on the dropout problem—in their classroom work, in guidance sessions, and in practice teaching. The university holds that elementary school teachers as well as high school teachers need to be prepared to meet the problem: many if not most of the young people who drop out of school became inclined to do so while they were still in the elementary school.

The Daytona Beach Junior College offers courses in occupational preparation to the students of high schools in its area. Students attend high school half a day and are then transported to the junior college campus for the rest of the day.

Jamestown Community College (New York) summarizes well the services of the community colleges: "We are deeply concerned about those who start but never finish their formal education even in this, a 2-year college. We encourage those who have not finished high school to take the equivalency examination and we readily admit those who pass to full standing. We also admit students on a nonmatriculated basis who have serious deficiencies, offering them an opportunity first to improve their reading and writing skills, and second to

take specialized courses for vocational improvement . . . upon completion we issue to those people certificates whereby they may prove to their employers that they have developed competence in specified courses of study."

California junior colleges, a California educator writes, "provide a second and third chance for a greater percentage of the total population than the colleges in any other State." He adds that the junior college has much more to offer the would-be dropout than the 4-year institution that limits most of its offerings to preprofessional and academic education. But he says that junior colleges have not yet met all problems of the dropout.

ALTHOUGH MOST OF THE REPLIES indicated a primary concern about dropouts, many reported on equal opportunity programs in which the schools were involved. About twice as many insitutions of higher education as school districts reported that they were engaged in such civil rights programs in their communities. Many reported new programs.

Among the reports from colleges are these:

The University of Michigan has a committee working on methods for getting more nonwhites on the faculty, for helping Negroes to complete their professional training, and for developing high school programs for academically qualified nonwhite students. The university and *Tuskegee Institute* have established a program of mutual assistance—assistance to the institute in development of staff and assistance to the university in identification of potential staff.

Colby College in Maine has for several years had an exchange program with *Fisk University:* Students from the institutions have opportunities to exchange places for a semester.

Wellesley College has a new program which makes it possible for nine young Negro women students from nine different southern colleges to have a "Junior Year in the North" at Wellesley. These students are nominated by their own colleges and selected by a joint committee of representatives of the United Negro College Fund and Wellesley.

Indiana University, which has itself been integrated for some time, recently set up a requirement for off-campus housing: The university will list only those operators of student housing who agree not to discriminate among students on the basis of color.

Other activities reported by institutions of higher education include workshops on racial problems in large cities; setting up funds for scholarships designated for minority groups; encouraging student volunteers to tutor promising Negro high school students; participation of faculty members in biracial commissions for the community or area; and establishing human relations commissions.

Local school districts reported such projects and activities as these:

The *San Francisco* district has helped with the organization of a Youth Opportunities Center which went into operation this past summer in a heavily populated Negro neighborhood. The project, which was begun with funds from the Ford Foundation and the Federal Government, coordinates the efforts of public and private agencies to provide youngsters with marketable skills and to encourage business, industry, and government agencies to open jobs to these youngsters. The project is intended to be a 3-year test of methods which may be applied to other parts of the city and to other cities in solving youth unemployment problems.

In *Norfolk, Va.,* the city school board reports, a Negro attorney was recently appointed a member of the board. He is the first Negro on this board in the history of the city.

Other school districts also reported a number of activities, such as formation of biracial committees of presidents of their local parent-teacher associations; giving consideration to racial balance in revising school boundaries, selecting sites, and modifying school-plant facilities; and the appointment, by the mayor, of a biracial committee and an education committee to see that there is no discrimination in the city's schools.

IT IS CLEAR from the replies to President Kennedy's letter that the methods which school and college officials consider most effective in combating the dropout problem are the counseling of students and parents; special studies leading to curriculum changes, more flexible student schedules, improved teaching methods, and the development of new technical and vocational education programs and expansion of those in existence.

It is also clear that there is a general feeling among those who responded to the letter that the related problems of reducing the number of dropouts and of establishing racial equality are best solved through concerted community efforts. In all parts of the country, representatives from all levels of education, business and industry, labor and agriculture, and civic organizations are pooling their talents to seek solutions.

Wherever progress has been made, the reports show pride in the accomplishment. But they show no complacency—only a continuing concern for the future.

Design for Dropout Study

ON OCTOBER 13–15 the Office of Education and the National Education Association joined forces in a conference they called to discuss the design for a study of school dropouts. Specifically staff members of the two agencies wanted to get the ideas of schoolmen from the States on the best methods of collecting comparable data on students who drop out of school, on the value of data to guidance and other officials, and on launching a dropout study. Seventeen States were represented.

The NEA's Project on School Dropouts will use the ideas expressed in a handbook it is preparing and has scheduled for publication in the last quarter of fiscal year 1964.

Grouping of Children

Its meaning for the preservice education of teachers

CHARLES M. LONG

GROUPING CHILDREN for instructional purposes continues to draw the attention of nearly everyone in our society who may have any interest at all in educating the young. Perhaps no other aspect of schooling has been and continues to be so heavily researched. This continuing interest is all the more amazing in the face of the results of the research. Grouping *per se* does not seem to have much impact on achievement. That it does not was reasonably well established early in this century, and none of the many carefully conducted studies that have been done since then have come out with significantly different conclusions. The discernible difference in the results obtained under the various grouping plans is negligible. Children seem to learn to read, for example, about as well when they are grouped in one way as in another. The enthusiasm which a new plan engenders may seem to produce better results for a while, but most of the plans do not wear or transplant well. Witness the blossoming and fading of the platoon plan.

The periodic concern about how well a subject is being taught—reading for example—always brings forth a spate of "new" plans for grouping and teaching children. And when these plans do not show the results hoped for, the search for a panacea to solve achievement problems becomes more frenzied. Children are jerked out of one situation and regrouped into another with little or no serious concern about the possible side effects of such changes on the lives of boys and girls or about what is known about how children learn best.

But the essential question remains: Why is the evidence on grouping so inconclusive? Could it be that more fundamental considerations have been ignored?

The research program at the Bank Street College of Education over a period of some 30 years tentatively confirmed certain psychodynamic theories of personality development and the learning process which have meaning for the role and education of the teacher, for the curriculum, and, by implication, not only for the grouping of children for instructional purposes but for teacher education. These are the basic propositions: [1]

1. *Education and mental health can be mutually reinforcing.* Insofar as education enables the pupil to clarify his ideas and to acquire competence and well-forged tools for meeting new perplexities and challenges, it strengthens him in his wish and his responsibility to live effectively and knowingly in his world. This strength the pupil not only *has* but *feels;* and this feeling, permeating all his relations in life, is easily recognizable as an ingredient of mental health.
2. *In every learning situation a pupil experiences simultaneously a dual process.* A pupil learning specific subject matter and skills in the classroom is adding to his store of competence; but he is also being influenced by the pervasive qualitative aspects of the situation, and these may affect his feeling about himself, his images of authority, his ideas of safety and adventure. These reactions inevitably affect each other.
3. *The principles of mental health should be applied to the teaching process.* Principles of psychodynamics should be applied to the ways in which knowledge is transmitted as well as to the protection of individuality. We should recognize the need for psychological consistency in our concepts about formal and informal education—a dichotomy which we sometimes make erroneously.
4. *There is a major potential for positive growth in the interaction between different spheres of experience.* Educators need to arrange the content, procedures, and settings of schooling so that the best use may be made of pupils' interactions.

I propose that in our practices of grouping children we realize fully the significance of these dynamic processes which are present in every learning situation. The common practice of attempting to group children homogeneously on the basis of a single characteristic or group of characteristics such as intelligence, reading achievement, and academic achievement is, in general, questionable in that it shifts the emphasis from the dynamic elements to the noncritical elements in the learning process.

In current grouping practices several rather obvious issues such as the child's self-image and his feelings about being shifted about in a pawnlike fashion are overlooked. Just possibly almost any reasonable plan for

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[1] *Basic Approaches to Mental Health: Teacher Education at Bank Street College,* by Barbara Biber, Elizabeth Gilkeson, and Charlotte Winsor, Bank Street College of Education Publications, New York.

grouping children for instruction would result in greater achievement if these basic conditions were more carefully and sensitively managed. Generally speaking, in grouping children we have given too little respect to the experience of the race. Men have been grouping themselves in families, clans, and communities, to mention a few of the ways, for a long, long time, and seldom, if ever, have they grouped themselves by age, for example.

A more consistent approach to grouping would be to develop patterns which would enable the teacher to perform certain key roles, for example,

to know the children and establish rapport with them;

to support their positive feelings about themselves;

to guide their learning so as to develop their egos; and

to develop a system of functional controls.

Grouping for effective learning in these terms would need to be flexible and dynamic. The time children spend with teachers and the size of group are critical considerations.

Still another important question remains to be asked. Do beliefs about people and the corresponding convictions of the society make any difference in determining desirable bases for grouping children? This question becomes particularly significant if we believe that the process of grouping is educative in itself. And we have reason to believe that children learn as much from how we work with them as from direct teaching in the classroom.

What are the implications of (1) protecting and enhancing the strength of child's self-image, (2) respecting the child as an individual, (3) considering man's experience in grouping, and (4) considering the democratic values and convictions of our society?

Children should be grouped and taught in an environment conducive to success. While failure is unquestionably a reality in everyone's life, no one should seriously question the undesirability of labeling or branding a child as a failure. The child should be encouraged to find security in a group where he can be successful most of the time. Only then can he be helped to manage failure in a creative and positive manner.

The relative immaturity of children is often used as a reason for shifting them about from one group to another or from one teacher to another. Imagine how adults would react to similar treatment! Children should at least be given the opportunity to have a voice in these decisions, or—and this is more important—to have an opportunity to find their way in a new and strange situation. This business of shifting a child from one group or class to another on the basis of a "test" is certainly open to question in this regard. Yet this procedure is common practice in many schools.

5. *If a pupil's emotional processes are to become active elements of his learning experience, education must take responsibility for providing for integrating mechanisms and relationships.* Integration can be expected to take place only to the extent that it is possible for the pupil to identify himself in the situation and adapt himself to it, and to become aware of and discover himself. Such dynamic processes can be mediated partly through the structure and quality of the educational milieu, but more significantly through teachers, who can enact balanced roles of support, control, and stimulation.

Some maintain that grouping children according to chronological age is open to question. Grouping according to age is not compatible with the ways in which people outside of school group themselves. A family consisting of persons of the same age would be a biological absurdity! It would appear to be high time for educators to reexamine our grading system, even though family and school are not analogous in a literal sense. The continuous-progress idea is a step in the right direction, although the reasons used may be open to question. Such a plan does provide a better possibility of adjusting content to individual needs, but more importantly it provides a more natural grouping—one in which children have an opportunity to learn from one another in a situation which has more of the dynamic possibilities of the family.

Finally, should not the ways in which children are grouped for instructional purposes be compatible with the basic convictions of our society? We are living in a democracy. Inherent in this political conviction is the basic notion that individuals—our children—should have the maximum opportunity to learn how to live as citizens in a democracy. And they can hardly learn in the school if it does not provide an environment in which they can learn by practice. This would imply further that children should not be moved about administratively within the school without involving them in the decision to move them. Their understanding and consent may be difficult to secure, but it is difficult with adults as well.

This discussion, with its reference to elementary education, is more applicable to teacher education than you might at first think. The elementary school graduate is almost as far away chronologically from the kindergartner as he is from the teacher trainee. And in terms of experience and maturity he is far closer to the latter.

In fact, these same dynamic processes apply at all levels of education, and are crucially important for teacher education, since teachers will need to be conscious of them and to put them into practice. As suggested in *Basic Approaches to Mental Health*, "Such processes can be mediated partially through the structure and quality of the educational milieu, but more significantly through teacher figures who can enact balanced roles of support, control, and stimulation." The content of teacher education programs should therefore be selected to develop teachers' capabilities to en-

act these roles. The Bank Street College program provides a structure which allows students to identify—and develop their ability to enact—these teacher roles. This is particularly apparent in the guidance field. Here, for example, not more than five students are assigned to an individual faculty member in teacher education who devotes 2 full days a week to these students.

Since in teacher education as well as elementary education time is required to study the individual student, advisers use their knowledge and understanding of each student to help him understand himself as he tries to enact the teaching role. A teacher whose preparation has made him sensitive to the demands of these critical roles will resist grouping devices which inhibit him in his enactment of these roles.

In summary, research evidence indicates that grouping in itself has little relationship to the quality and extent of learning. More critical factors are the quality of the teacher-child relationship, the child's self image, and the potential for success in whatever structure the teacher provides. In any grouping plan cognizance needs to be taken of the basis underlying man's natural groupings, such as the family. Grouping practices need to be consistent with the political ideology in the society for which children are being educated. An effective program of preservice education of teachers fosters understanding of this kind.

EDITOR'S NOTE.—*Dr. Long's article ends the* School Life *series adapted from papers read at the Office conference on grouping. We are sure, however, that other papers read at the conference would be equally interesting to many of our readers. The others will be reported in* Education Briefs: *"Is the Focus on Program or People as Individuals?" by John D. Greene, director of instruction, East Baton Rouge Parish, La.; "Grouping Children in the Small Rural School," by Ralph G. Bohrson, coordinator, the Western States Small Schools Project, Colorado State Department of Education; "What We Have Learned About Grouping," by Pat Wear, chairman, Department of Education, Berea College, Kentucky; and "Comments about Preliminary Report on Grouping," by Minnie Lee Rowland, consultant in elementary education, Florida State Department of Education.*

School Library Reporter

MARY HELEN MAHAR

Specialist, school and children's libraries

★ Under the revised regulations for title III of the National Defense Education Act (see *School Life*, October 1963, page 6) public elementary and secondary schools may use funds from title III to purchase professional reference materials for teachers of science, mathematics, and modern foreign language; transparencies; and equipment and materials for teachers to use in preparing audiovisual materials in these subjects. School libaries which provide professional materials for teachers and include rooms in which teaching materials are prepared will very likely be interested in the revised regulations.

★ *The School Library as a Materials Center: Educational Needs of Librarians and Teachers in Its Administration and Use*, the proceedings of a conference held in the U.S. Office of Education in May 1962, should be useful to educators as well as librarians. For faculties of library and teacher education programs who are revising their curriculums, there are papers on the preparation of teachers and librarians in administering and using an instructional materials center; for supervisors of curriculum and libraries, there are papers on inservice education in instructional materials; and for school librarians and teachers, there are papers containing ideas for broadening and improving their services.

Copies of *The School Library as a Materials Center*, OE–15042, edited by Mary Helen Mahar, are available from the Government Printing Office, Washington, D.C., 20402, at 50 cents.

★ Librarians will be glad to hear that one Missouri high school is trying to solve the problem created by high school students who monopolize public libraries and greatly inconvenience other patrons. The high school is locating its library in a separate building on the campus and will keep it open for high school students all day, including Saturday, and every evening. When we have more details on the plan and its success, we will report them.

★ An Office of Education study of grades 7, 8, and 9 in junior high schools and junior-senior high schools found that all schools except the small ones (from 75 to 299 pupils) had central libraries with full or part-time librarians. Approximately 80 percent of the small schools had at least a room which served as a central library, but almost half of these schools had no librarian service. More than half of all the schools surveyed had no classroom libraries in any junior high school grade.

Copies of the study, *The Junior High School, A Survey of Grades 7, 8, 9, 1959–60* (OE–20046), by Grace S. Wright and Edith S. Greer, are available at 45 cents each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

USOE Cooperative Research

FRANCIS A. J. IANNI

DID YOU HAVE TROUBLE with mathematics in school? If you did, some of our recent research in math education might almost convince you to go back and try again. A great deal of exciting work in the development of a new math curriculum for kindergarten through grade six has been and is being done by Patrick Suppes and his associates at Stanford University. Dr. Suppes is a brilliant and imaginative young professor of philosophy and statistics at Stanford and director of its Institute for Mathematical Studies in the Social Sciences.

His project, supported with funds both from the Cooperative Research Program of the Office of Education and from the National Science Foundation, has developed a technique which has moved high-school- and college-level-mathematics into the grade schools. Plentiful evidence exists, Dr. Suppes says, for the idea that children of elementary school age are able to take much more advanced mathematics than they have traditionally been given; and he points out that there are many sound and valid arguments for teaching them more, earlier. To Dr. Suppes, however, the most important argument for the early introduction of algebraic and geometric concepts and methods is that it lays a stronger foundation for future mathematics than is laid in the present elementary school curriculum.

Dr. Suppes' primary objective is to make mathematics education more continuous than it generally has been. In the past, mathematics education has consisted of segments more or less unrelated: the kindergarten and the primary grades have taught arithmetic by using objects; the later elementary grades have taught it by using Arabic numerals; the secondary schools have offered algebra, geometry, and other mathematics courses as new and separate "subjects"; and colleges and professional schools, with their courses in advanced mathematics, have made up still another segment.

This unrelatedness, however, is not consistent with the nature of mathematics itself: mathematics is a logical subject, which proceeds from the simple to the complex; and certain ideas and laws unite all branches of mathematics at all levels, from kindergarten through the university. Because this is so, Dr. Suppes has developed materials and methods that from the beginning introduce the child to the basic ideas and encourage him to use precise mathematical language; and as the child progresses through the sequences of his workbooks, he deepens and extends his mathematical knowledge. The early introduction of geometry and algebra, Dr. Suppes says, can be effected with no apparent sacrifice in the development of the customary arithmetic skills.

The unifying idea in the materials Dr. Suppes has developed for the primary grades is that of "sets." For years teachers of the primary grades have recognized the necessity for concreteness in teaching mathematics and have used objects in groups as a means of helping children to grasp the idea of number and to use it in the elementary processes of addition, subtraction, and so forth. Since a group of objects constitute a set, the teacher who in the past presented problems by grouping objects came close to the notion of sets; but unless he combined the grouping with an explicit notation, he found precise definitions difficult, if not impossible. As valuable as the initial work with objects is, the critical step in the child's development of mathematical understanding is the move from the concrete object to the abstract realm of number and number description.

Numbers are properties of sets, parts of a group. The operation of adding numbers is a way of combining sets of things without paying any real attention to the characteristics of the individual things themselves. It doesn't matter so much what the individual things are, as what you choose to do with the sets they make up. Nor does it matter if the things are like or unlike: you are working with the *sets*, not with the things; and you can add them, subtract the smaller from the larger, or relate them to each other in any other arithmetical process.

The first step in abstraction is to learn what a set is. This set, for example, consists of one block and one ball:

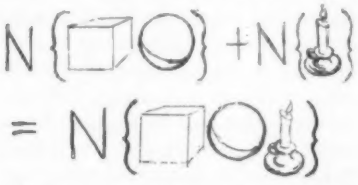
The next step is to add the *N* notation, which represents the set containing this one block and this one ball:

True, the notation *N* stands for the number, which is an abstraction, but when the teacher uses it alongside the set, he maintains the pictorial, concrete character of the set. In this sense, use of *N* for *two*, the word which in ordinary language is the number name for the set, may be considered as a transition to the Arabic numerals. The final step is to the Arabic numeral, which in our example is 2: it stands for *N*, or for a set of two objects, a block and a ball:

Dr. Ianni is director, Cooperative Research Branch, Office of Education.

Having come this far, teacher and pupils next proceed to more complex work, beginning, as before, with pictures and then making the transition to letters and finally to numerals. What they are doing is translating ideas into mathematical language, just as they might have translated them into French. For example, they add sets by a process like this: They unite one set containing a block and a ball with another set containing one candle, and come up with a set containing one block, one ball, and one candle:

Then, using N to represent numbers, the pupils reason that N (the number representing the set containing the block and the ball) and N (the number representing the set containing the candle) is the same as N (the number representing the set containing a block, a ball, and a candle) or, in ordinary language, they say that a set of *two* things joined with a set of *one* thing makes a set of *three* things:



Finally, making the transition to Arabic numerals, they conclude that—

$$2+1=3$$

The case for developing the idea of sets at the beginning of primary grades has two strong bases of support: It has a logical basis, inasmuch as sets precede numbers and all mathematics can be developed from the idea of sets. And it has a psychological basis: sets are concrete; numbers, abstract. Quite a lot of empirical evidence is piling up that first-grade children readily and easily comprehend the whole idea of sets and enjoy putting it to the test of practice.

So far, the Stanford project has produced materials for children in kindergarten and the primary grades. Each year it adds another grade to the program of classroom experimentation; during the school year 1962–63 it included 110 first-grade classes, 102 second-grade classes, 68 third-grade classes, and 20 kindergarten classes. The intention is to provide a program that is not only mathematically sound but pedagogically simple: the teacher training program, which aims essentially at teachers already in the school system, consists only of orientation meetings, monthly workshops, and an *optional* course in background mathematics, given at Stanford University as a part of the project.

Dr. Suppes' group is now engaged in a series of new experiments on how children come to understand and apply mathematical principles—in short, on how children learn—a subject to which these researchers are trying to apply precise quantitative analysis. The findings in these experiments are expected to shed light on problems which arose while the sets and numbers program was being developed; the experimental variables were selected with these problems in mind. From these experiments we expect both discoveries about the learning process and new instructional materials which teachers and pupils will use with enthusiasm.

THE HUMAN SIDE OF FEDERAL AID

Today Mrs. Dawes—we call her by that name instead of her own—is following a career she would not have dared aspire to a few years ago.

She attributes some of her success to help she has received through the student loan program of the National Defense Education Act. Here is her story as she told it to J. E. Kirkpatrick, dean of the Black Hills Teachers College in South Dakota:

"Some time ago I was left alone without funds to raise three boys. Because I was unskilled, it was impossible for me to find work with which I could provide even the basic needs of my family. I had to turn to the Aid to Dependent Children program for help.

"I felt trapped in the web of circumstances until I observed a neighbor joining a daily car pool to a nearby college. She invited me to come along for a day to explore the possibilities.

"In spite of the fact that my pockets were empty, I was graciously received and encouraged to take the freshmen tests. Subsequently, I enrolled and was able to obtain a small loan to cover one quarter of the cost of schooling. It was impossible to plan further than that.

"Then I heard about the student loans under the National Defense Education Act. I filed application papers, and soon was assured that I could continue my education without worrying about funds.

"Now I have a B.S. in education and am planning to further my education. In the meantime I pursue my teaching career and continue to care for my family, glad that I am performing a useful task and grateful to NDEA and to the educators who encouraged and guided me to this goal.

"Nineteen sixty-three marked the completion of my second year of teaching. It was also the anniversary of my first National Defense student loan. More than that, it is evidence that with training, the head of a dependent family can become self-supporting and a useful contributor to society."

AD Minutes Briefly noted--- for the busy School Administrator

Material for this department is prepared by the staff of the Administration Branch, Division of Elementary and Secondary Education

Three studies reported recently, pose sobering questions for the administrator. One, *A Study to Determine the Literacy Level of Able-Bodied Persons Receiving Public Assistance,* was carried out by the Cook County (Ill.) Department of Public Aid among adult welfare recipients in a low-income area of Chicago. The study found a high degree of functional illiteracy among the welfare recipients, 84 percent of whom were women. Because most of these women are either mothers or potential mothers, the study concluded that it is "almost inevitable that a new crop of adult dependents will grow from the present seedlings of dependent children unless these children are nurtured in a different kind of social and cultural soil than they are today."

A second study has recently been completed in Detroit among families receiving Aid to Dependent Children funds. As reported in the *New York Times,* the two Wayne State University professors who conducted the study found that the grinding poverty of the families was cutting them off from normal social contacts, preventing the families from keeping up any "face" in community, church, or school. These dependent families, the report concludes, "have a minimum chance of escaping poverty and a status of outcasts."

The third, reported in *Canada's Health and Welfare,* June 1963, has examined in detail the generational pattern found among problem families and the values these families hold. The study revealed that the subjects were confronted by a frightening array of problems. Among these were pronounced problems in the care and training of children. The report states: "What emerged from this study, was that if we do not make any concerted effort in preventing further dependency and do not help these families in an organized manner, the pattern of these families continues from generation to generation."

In an attempt to test the feasibility of reducing the number of years a student spends in school, six districts in New York State will adopt longer school terms. The project, which will run for 3 years, will attempt to determine whether it is possible to reduce schooling from 13 to 12 or 11 years. The project will be launched by the State education department in compliance with legislation passed this year.

Illinois has passed a new law (House Bill 113, 1963) similar in intent to California and New York State laws requiring school boards to consider race in determining attendance units. Some indication of the scope of the law is apparent in this excerpt: "The board shall, as soon as practicable, and from time to time thereafter, change or revise existing subdistricts or create new subdistricts in a manner which will take into consideration the prevention of segregation and the elimination of segregation of children in public schools because of color, race, or nationality. All records pertaining to the creation, alteration, or revision of subdistricts shall be open to the public."

The Supreme Court of Oklahoma has ruled that the transportation of parochial schoolchildren to parochial schools at public expense violates the State constitutional provision that forbids the use of public money or property for sectarian purposes. (Board of Education for Independent School District No. 52 *v.* Antone, 384 P. 2d 911.)

The U.S. Supreme Court in 1947 (Everson *v.* Board of Education, 330 U.S. 1) held that this practice does not violate the U.S. Constitution, but since that decision was made, courts in seven States (Alaska, Iowa, Missouri, Oklahoma, New Mexico, Washington, and Wisconsin) have ruled the practice violates the State constitution.

"It is in our slum schools that we should bring to bear all the knowledge and skill that our society possesses to overcome the effects of past deprivation," according to James Cass, writing in a *Saturday Review* editorial entitled "More Than Equality?" He goes on to point out that this means "more dollars for more services, better facilities, richer resources and more highly skilled teachers. It is in our slums, not our suburbs, that we need our finest schools. It is here that 'more than equality' makes sense, and today anything less makes no sense at all."

Effort has already been made to set up the kind of program that Mr. Cass called for. In California, State legislation (The McAteer Act) authorizes a statewide educational program for culturally disadvantaged pupils. The office of consultant on compensatory education has been established in the State department of education to implement the act. Principals in the California public schools have been

given responsibility for identifying the youngsters to participate in the program.

The State Board of Education has initiated a demonstration project in compensatory education in the Oakland, California, public schools. Oakland has already received State funds authorized by the act and is moving ahead on its program.

The project will offer remedial education, special counseling, and job placement for students at two city high schools. The project is especially aimed at helping culturally disadvantaged students who have the ability to complete high school, but an additional component is expanding opportunities for children in kindergarten through sixth grade in an elementary school to increase their skills in oral language.

In their efforts to secure enough money to meet demands of enrollment increases and rising school costs, very likely few school boards pause to reflect that the funds they expend for education are capital investments, much in the same sense that funds spent by private companies on new factories and machines are capital investments. But there is a growing conviction that expenditures for education have all along been one of the mainsprings of economic growth. Studies by Theodore W. Schultz, professor of economics at the University of Chicago, and others show that funds spent for education have been an important factor in the Nation's economic growth, that the development of peoples' capabilities through education increases national income and productivity. Commissioner Keppel is a vigorous champion of the idea that "education should be thought of as an investment directly related to greater productivity . . ."

Further support of the same idea comes from a report by the Japanese Ministry of Education, *Japan's Growth and Education: Educational Development in Relation to Socioeconomic Growth.*

The Ministry has applied Dr. Schultz's techniques to its country, and has concluded, the report states, that investment in education was responsible for 25 percent of the increase in the national income of Japan in the 25 years from 1930 to 1955. The report points out that when educational planning is considered from the viewpoint of investment, it should be regarded as one of the forms of public investment. In this connection, the final chapter of the report discusses the necessity of long-range overall national planning for educational investment.

After-school study centers were opened during November 1963 in 232 of New York City's 860 public schools, a recent staff bulletin of the city school system reports. All the centers are located in areas with heavy concentrations of Negroes and Puerto Ricans, and the center programs have been worked out to help pupils in these areas bring their work up to average or higher. Programs include remedial instruction for retarded pupils and potential dropouts; tutorial help in high school mathematics, science, and foreign languages; and homework clinics and library services for pupils in all grade levels. The centers will be staffed with teaching teams composed of teachers who have special abilities in working with culturally disadvantaged pupils and with volunteer teacher aides recruited from colleges and civic organizations such as the Citizens Committee for Children and the Domestic Peace Corps.

The after-school study center program is part of the Plan for Integration developed by the Board of Education in response to a request, last June, by State Commissioner of Education James E. Allen, Jr., that all school systems in the State submit, by September 1, 1963, a statement of their plans for overcoming racial imbalance in schools. The plan submitted by the New York City Board contains two basic goals: (1) To improve the quality of education in schools located in sections populated by minority groups and (2) to improve racial and ethnic integration of the schools.

In New York State, 803 of the 865 school districts which operated schools in 1962–63 voted on their budgets between May and July. Eighty-nine percent of these districts passed them as recommended by their school boards. The remaining districts amended their budgets slightly before passing them. Only three of these districts rejected the budgets as proposed, and forced their schools to operate under austerity budgets.

The remaining 62 districts, which are city school systems, do not take their budgets before the electorate. Because of the concentration of schoolchildren in urban areas, their budgets probably account for most of the funds for the public schools in the State. But in the districts where voters had the opportunity to express their attitude on the budget, citizens' response to school needs was overwhelmingly favorable.

Ten North Carolina communities may become a model to other communities, particularly to other communities in the Appalachian region that are struggling against poverty, unemployment, and students' dropping out of school.

In these 10 communities a 5-year project has been initiated with money contributed by foundations to the North Carolina Fund, which was established in July to administer the project. The pilot project will include greater emphasis on reading and writing in the first 3 grades, smaller classes, team teaching, and ungraded classes.

The North Carolina Fund has a 12-man board of directors, and is headed by Governor Terry Sanford, who has given vigorous leadership to upgrading education in that State.

BONDS

for educational purposes

. . . sales, interest rates, et cetera . . .

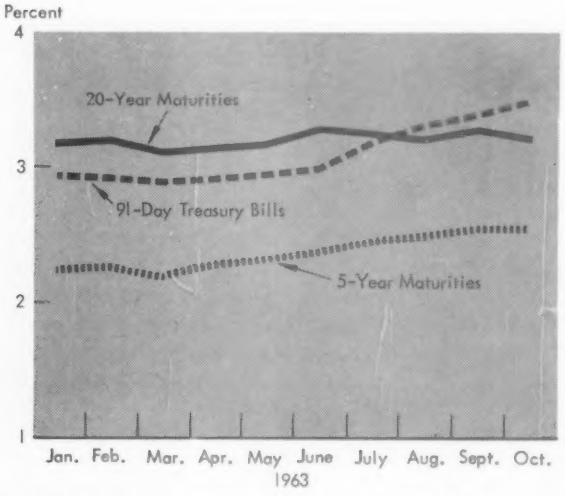
Public Schools

By ELMER C. DEERING, *specialist on the financing of school facilities, Division of Elementary and Secondary Education, Office of Education*

INTEREST RATES on school bonds in October 1963 averaged 16 basis points higher than they did a year ago. A year ago the rates were following a downward trend; now they are moving sidewise. The average for all rated bonds in October 1963 was 3.18 percent; in September it was 3.19 percent.

The fact that in these two months the average rate was higher than it had been during the summer can be attributed largely to higher rates on short-term maturities. For 6-month Treasury bills the rate rose from 2.95 percent in March 1963 to 3.63 percent in October; on 91-day Treasury bills it rose from 2.89 percent to 3.48 percent.

The chart below shows that in average monthly yield short-term general obligation bonds are following, more closely than long-term bonds, the upward trend of the yield on Treasury bills. Between March and October of this year the yield on 20-year maturities rose only 9 basis points while the yield on 5-year maturities rose 34 basis points.



Yield on 91-day Treasury bills compared with average new issue reoffering yield on general obligation bonds with a Moody rating of A, by months, January–October 1963

Average net interest cost of Moody-rated bonds sold on primary market for public schools, by rating only: Annual 1959–60 to 1962–63; monthly, October 1962 to October 1963

Period	Aaa	Aa	A	Baa	Ba	All rated bonds
1959–60	3.26	3.63	3.77	4.21	4.55	3.84
1960–61	2.82	3.34	3.43	3.75	3.97	3.48
1961–62	2.84	3.23	3.19	3.51	3.93	3.27
1962–63	2.64	2.86	2.99	3.29	3.72	3.03
1962						
October	.....	2.75	2.96	3.16	3.84	3.02
November	2.38	2.73	2.88	3.17	3.22	2.90
December	2.56	2.73	2.99	3.27	3.86	3.06
1963						
January	2.53	2.79	3.00	3.28	3.78	3.02
February	2.68	2.77	3.00	3.25	3.73	2.99
March	2.47	2.76	2.93	3.22	3.61	3.00
April	2.73	2.87	2.91	3.91	3.53	2.92
May	.....	2.74	2.94	3.31	3.38	3.02
June	.....	2.99	3.03	3.36	3.58	3.14
July	.....	2.91	2.99	3.34	3.83	3.07
August	2.62	2.98	3.04	3.37	3.75	3.07
September	.....	2.96	3.13	3.33	3.76	3.19
October	2.76	3.05	3.18	3.36	3.73	3.18

Source: Sales reported by The Daily Bond Buyer; ratings, by Moody's Investors Service (rated bonds include 75–80 percent of all bonds for public schools).

Average net interest cost of Moody-rated bonds sold on primary market for public schools, by rating and by term of bond, for the latest quarter and month available only

Term of bond	Aaa	Aa	A	Baa	Ba	All rated bonds
	Latest quarter (July–September 1963)					
Under 15 years	2.62	2.77	2.76	3.11	.....	2.75
15–24 years	.....	2.94	3.05	3.30	3.75	3.10
25 years and over	.....	3.00	3.21	3.38	3.79	3.20
All terms	2.62	2.96	3.05	3.34	3.77	3.11
	Latest month (October 1963)					
Under 15 years	.....	2.88	2.74	3.12	.....	2.89
15–24 years	2.76	3.02	3.08	3.31	3.79	3.08
25 years and over	.....	3.09	3.26	3.40	3.71	3.26
All terms	2.76	3.05	3.18	3.36	3.73	3.18

Source: Sales reported by The Daily Bond Buyer; ratings, by Moody's Investors Service (rated bonds include 75–80 percent of all bonds for public school purposes).

Colleges and Universities

By W. Robert Bokelman, *chief, Business Administration Section, Division of Higher Education, Office of Education, and* Elmer C. Deering

During September 1963, colleges and universities sold $48.7 million worth of bonds to finance buildings and other facilities: public institutions sold $27.1 million (both revenue and general obligation bonds); private institutions $21.6 million (revenue bonds only). The Housing and Home Finance Agency purchased about 60 percent of the bonds sold by public institutions and about 92 percent of those sold by private institutions.

September makes the second month this year in which private institutions paid a lower interest rate than public institutions: private institutions paid 3.27 percent; public institutions 3.40 percent. The average rates paid by public institutions and by private institutions in each month of 1963 and in all of 1962 are as follows:

Period	*Public (Percent)*	*Private (Percent)*
1962	3.33	3.44
1963:		
January	3.37	3.49
February	3.23	3.47
March	3.05	3.45
April	3.33	3.35
May	3.26	3.34
June	3.49	3.36
July	3.36	3.40
August	3.17	3.30
September	3.40	3.27
Average month, January–September	3.27	3.38

The tables below show the sales in September 1963—first, in various groupings; then, institution by institution:

Bonds sold for higher education, September 1963: Number and amount of sales and average net interest cost, by type of institutional control, type of financing, type of bond, and type of facility to be constructed

Type of financing, bond, and facility	Number of sales	Bonds sold: Amount (000)	Bonds sold: Percent of total	Average net interest cost (per cent)
PUBLIC INSTITUTIONS				
Type of financing:				
HHFA	13	$16,170	59.7	3.44
Other	16	10,917	40.3	3.34
Type of bond:				
Revenue	26	23,541	86.9	3.44
General obligation	3	3,546	13.1	3.10
Type of facility:				
Academic	2	2,546	9.4	3.16
Instructional	2	2,546	9.4	3.16
Auxiliary	27	24,541	90.6	3.42
Dining	1	600	2.2	3.25
Residential	17	17,751	65.5	3.38
Residential-dining	1	2,294	8.5	3.50
Student center	4	2,200	8.1	3.50
Student center-dining	2	396	1.5	3.50
Student center-residential	1	100	.4	3.93
Stadium-field house	1	1,200	4.4	3.73
Total, public institutions	29	27,087	100.0	3.40
PRIVATE INSTITUTIONS				
Type of financing:				
HHFA	18	19,844	91.9	3.26
Other	1	1,750	8.1	3.34
Type of bond: Revenue	19	21,594	100.0	3.27
Type of facility: Auxiliary	19	21,594	100.0	3.27
Residential	10	11,698	54.2	3.15
Residential-dining	6	7,046	32.6	3.40
Student center	1	200	.9	3.38
Student center-residential	2	2,650	12.3	3.43
Total, private institutions	19	21,594	100.0	3.27
ALL INSTITUTIONS				
Type of financing:				
HHFA	31	36,014	74.0	3.34
Other	17	12,667	26.0	3.34
Type of bond:				
Revenue	45	45,135	92.7	3.36
General obligation	3	3,546	7.3	3.10
Type of facility:				
Academic	2	2,546	5.2	3.16
Instructional	2	2,546	5.2	3.16
Auxiliary	46	46,135	94.8	3.35
Dining	1	600	1.2	3.25
Residential	27	29,449	60.5	3.29
Residential-dining	7	9,340	19.2	3.42
Student center	5	2,400	4.9	3.49
Student center-dining	2	396	.8	3.50
Student center-residential	3	2,750	5.7	3.45
Stadium-field house	1	1,200	2.5	3.73
Total, all institutions	48	48,681	100.0	3.34

Bond sales for publicly controlled and privately controlled institutions of higher education in the United States, by institution, September 1963

Institution	Amount sold (000)	Term	Average net interest cost	Use of funds [1]
PUBLIC INSTITUTIONS				
University of Alaska	1,106	1–39	[2] 3.38	Res.
Arizona State College	1,110	1–40	[2] 3.50	Res.
Arizona State Univ.	560	1–20	3.50	Res.
	1,190	21–40	[2] 3.50	Res.

See footnotes at end of table.

Bond sales for institutions of higher education, by institution, September 1963—Continued.

Institution	Amount sold (000)	Term	Average net interest cost	Use of funds [1]
PUBLIC INSTITUTIONS—Con.				
University of South Florida	2,220	1–40	[2] 3.50	Res.
Indiana State College (Indiana)	680	1–24	3.35	Res.
	685	25–37	[2] 3.38	Res.
	500	1–17	3.12	Res.
	1,000	18–37	[2] 3.13	Res.
University of Kentucky	650	1–19	3.46	Ctr.
	700	20–31	[2] 3.50	Ctr.
Southwest Missouri State College	675	32–39	[2] 3.50	Ctr.
	890	1–14	3.44	Res.
	3,500	15–39	[2] 3.38	Res.
Suffolk County	1,546	1–30	3.15	Instr.
University of North Carolina	1,087	1–29	3.44	Res.
	713	30–39	[2] 3.50	Res.
Central State College (Okla.)	1,200	1–32	3.73	St.-FH
Southeastern State College	100	1–26	3.93	Ctr.-Res.
Southwestern State College	225	1–15	3.50	Res.
	875	16–40	[2] 3.50	Res.
State of Rhode Island	1,000	1–20	2.97	Res.
	1,000	1–30	3.17	Instr.
Madison Coll. (Va.)	410	1–25	3.30	Res.
	600	1–25	3.25	Din.
Washington State University	2,294	1–38	[2] 3.50	Res.
Potomac State College	175	1–30	3.61	Ctr.
Bluefield State College	294	1–24	3.50	Ctr.-din.
	102	25–29	[2] 3.50	Ctr.-din.
PRIVATE INSTITUTIONS				
Snead Junior College	257	1–39	[2] 3.38	Res.
Emory University	760	1–39	[2] 3.38	Res.
Northwest Nazarene College.	156	1–29	[2] 3.38	Res.
University of Chicago	200	1–38	[2] 3.50	Res.
	525	1–38	[2] 3.38	Res.
	300	1–38	[2] 3.38	Res.
Evansville College	1,155	1–40	[2] 3.38	Res.-din.
Centre College of Kentucky.	410	1–39	[2] 3.38	Res.
Kansas City Art Institute and School of Design.	820	1–39	[2] 3.38	Res.-din.
Long Island University	2,030	1–39	[2] 3.38	Res.-din.
Roberts Wesleyan College.	1,750	1–30	3.34	Res.
Queens College (N.C.)	200	1–39	[2] 3.38	Ctr.
Mary Manse College	800	1–39	[2] 3.38	Res.-din.
Otterbein College	1,225	1–39	[2] 3.50	Ctr.-res.
College Misericordia	1,425	1–49	[2] 3.38	Ctr.-res.
Temple University	1,041	1–49	[2] 3.38	Res.-din.
University of Pittsburgh	7,000	1–38	[2] 3.00	Res.
Trevecca Nazarene College.	340	1–40	[2] 3.38	Res.
Bishop College	1,200	1–40	[2] 3.50	Res.-din.

[1] Abbreviations in this column indicate the following uses: Res, residential; Ctr, student center; Instr, instructional; St-FH, stadium-field house; Din, dining.

[2] Purchased by Community Facilities Administration, Housing and Home Finance Agency.

Statistic of the Month

Enrollments for advanced degrees

Of the 373,800 students enrolled for advanced degrees in the fall of 1962 in the United States and outlying parts, 64 percent were in the first year of graduate work; 32 percent, in the intermediate years; and 4 percent, in the terminal year for the doctorate. (Students "in the intermediate years" were those who had completed one or more years of the work required for an advanced degree—that is, a master's degree or a doctor's degree—and were not expected to complete all requirements for a doctor's degree by June 30, 1963.)

At each of these levels, the three fields of study with the largest enrollments were as follows:

First-year students

Education	37.3 percent
Social sciences	10.9 percent
Engineering	10.0 percent

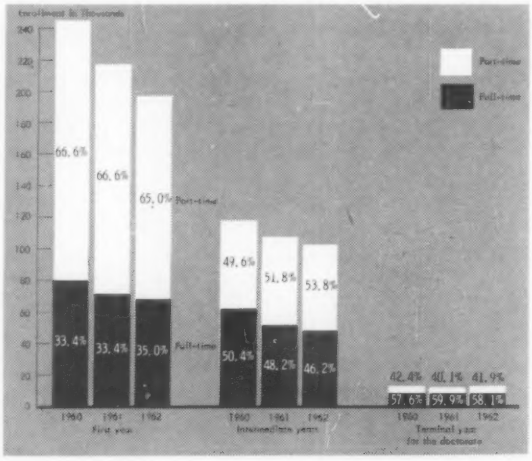
Intermediate students

Education	19.3 percent
Engineering	14.9 percent
Social sciences	14.5 percent

Students in the terminal year for the doctorate

Physical sciences	19.8 percent
Engineering	14.1 percent
Education	12.8 percent

In most fields of study at the first and intermediate levels, enrollments were higher than they had been 2 years earlier, in the fall of 1960. The fields with the largest enrollments, for instance, showed these increases: *At the first-year-level*, education, 26.5 per-



Number and percentage of part-time and full-time students enrolled for advanced degrees, by level, in the fall of 1960, 1961, and 1962, United States and outlying parts

cent; social sciences, 17.5 percent; engineering, 20.9 percent; business and commerce, 17.9 percent; English and journalism, 31.3 percent; biological sciences, 16.5 percent; physical sciences, 8.5 percent; and mathematical subjects, 18.2 percent; *at the intermediate level*, education, 4.6 percent; engineering, 17.5 percent; social sciences, 29.5 percent; physical sciences, 14.7 percent; and biological sciences, 24.8 percent.

At the doctoral level enrollments as a whole showed only a slight increase over the 1960 total. The largest increases were in engineering, 26.2 percent; the biological sciences, 18.6 percent; and the physical sciences, 9.1 percent. Many fields, including education, showed decreases.

The ratio of part-time students to full-time was about the same in 1962 as in 1960. The total enrollment and the enrollment of part-time students increased 18.9 percent. Approximately two-thirds of the first-year students were attending on a part-time basis, as compared with about one-half of those enrolled in the intermediate years, and two-fifths of the doctoral candidates in their terminal year. The numbers of part-time and full-time students enrolled at each level in the fall of 1960, 1961 and 1962 are shown in the chart and in the tabulation opposite.

Level and year	Full-time	Part-time	Total
First-year:			
1960	68,925	128,255	197,180
1961	72,645	144,847	217,492
1962	80,217	160,251	240,468
Intermediate:			
1960	47,979	55,788	103,767
1961	52,257	56,249	108,506
1962	60,377	59,409	119,786
Terminal-year:			
1960	7,785	5,617	13,402
1961	7,772	5,211	12,983
1962	7,832	5,759	13,591

More information on this subject is in the summary report cited at the foot of the table below. It is available from the Office of Education, Washington, D.C., 20202.—Rose Marie Walker, educational statistician, Office of Education.

Enrollment for advanced degrees, by field, and level: United States and outlying parts, fall 1962

Field and study	Enrollment, fall 1962				Percent change from fall 1960 to fall 1962			
	Total	First-year students [1]	Intermediate students [2]	Terminal-year students [3]	Total	First-year students [1]	Intermediate students [2]	Terminal-year students [3]
Total	373,845	240,468	119,786	13,591	18.9	22.0	15.4	1.4
Agriculture	4,282	1,974	1,952	356	11.2	6.0	24.1	−14.4
Architecture	836	522	310	4	42.9	55.8	26.5	[4]
Biological Sciences	17,768	8,196	7,919	1,653	20.3	16.5	24.8	18.6
Business and Commerce	28,750	21,011	7,441	298	13.4	17.9	3.4	−7.2
Education	114,641	89,795	23,104	1,742	20.7	26.5	4.6	−8.1
Engineering	43,850	24,049	17,888	1,913	19.7	20.9	17.5	26.2
English and Journalism	16,873	10,861	5,521	491	25.3	31.3	17.8	−2.4
Fine and Applied Arts	11,513	7,456	3,732	325	24.4	26.0	26.6	−16.7
Foreign Languages and Literature	8,678	4,632	3,681	365	37.5	40.9	38.9	−1.6
Forestry	713	399	282	32	27.3	22.8	31.8	[4]
Geography	1,281	708	516	57	23.1	27.6	22.3	[4]
Health Professions	6,586	3,697	2,681	208	12.7	6.4	25.3	−8.4
Home Economics	1,587	1,152	412	23	0.4	10.7	−17.8	[4]
Law	2,124	1,704	387	33	28.6	34.4	12.2	[4]
Library Science	1,856	1,544	290	22	36.5	33.7	57.6	[4]
Mathematical Subjects	14,121	8,813	4,806	502	20.0	18.2	24.2	12.6
Philosophy	2,684	1,236	1,286	162	18.9	20.2	23.5	−14.3
Physical Sciences	28,591	13,229	12,672	2,690	11.2	8.5	14.7	9.1
Chemistry	12,309	5,889	5,120	1,300	10.2	13.6	7.9	4.6
Physics	11,005	4,857	5,237	911	13.7	9.3	18.7	10.8
Earth Sciences	3,065	1,367	1,382	316	5.1	−1.5	9.9	17.0
All other	2,212	1,116	933	163	13.6	−5.3	46.5	24.4
Psychology	11,344	6,169	4,403	772	6.2	12.8	2.6	−15.8
Religion	5,447	2,962	2,247	238	2.5	21.9	−6.1	−51.7
Social Sciences	45,121	26,176	17,383	1,562	20.9	17.5	29.5	−3.8
Broad General Curriculums and Miscellaneous Fields	5,199	4,183	873	143	28.0	36.1	−7.2	204.3

[1] Includes students who had completed less than one full year of required work for an advanced degree.

[2] Includes students who had completed one or more years of required work for an advanced degree, that is, a master's (except first professional) or a doctor's degree, and were not expected to complete all requirements for a doctor's degree by June 30, 1963.

[3] Includes only those students who were expected to complete all doctoral requirements by June 30, 1963.

[4] Percentages were not computed for fewer than 100 students.

Source: Department of Health, Education, and Welfare, Office of Education, Summary Report on Survey of Students Enrolled for Advanced Degrees: Fall 1962 (OE–54009–62).

More Notes on the Notable

Physical fitness film available

In line with the national effort to develop physical fitness in schoolchildren, the World Book Encyclopedia, in cooperation with the President's Council on Physical Fitness, has produced "Youth Physical Fitness—A Basic School Program," a 16mm, 17-minute film for use in schools. The film demonstrates the need for a regular physical fitness program and shows how a classroom teacher without special training can conduct a physical fitness program in a classroom without elaborate equipment. The introduction to the film is by President Kennedy.

A review print is available without charge to school administrators and teachers from Douglas Film Industries, 10 West Kinzie Street, Chicago.

Social workers are needed

Young people considering choices of careers will find an open field in social work. Public welfare agencies, already hampered by a shortage of skilled workers, face an acute shortage by 1970 if new workers do not prepare now to enter the field. Recent Federal legislation extending public assistance programs will result in greater demand for persons professionally trained to deal with such problems as neglected children, and individuals or families needing rehabilitation.

The Welfare Administration, U.S. Department of Health, Education, and Welfare, cites these facts indicating the need for new workers:

- Public assistance agencies now employ about 47,000 persons; by 1970 they will need almost 84,000.
- Only 55 percent of the counties in the United States employ a full-time public child welfare worker; Federal legislation requires that child welfare services be extended to all counties by 1975.
- Current estimates indicate that only 25 percent of the welfare employees have completed 2 years or more of professional social work education. Only 4.5 percent of public assistance employees have 2 or more years of graduate study in social work; by 1970 at least 34 percent should have. Schools of social work are now graduating about 3,000 persons a year; if the needs for public assistance programs alone are to be met the schools will have to increase the number by 10 percent.
- There is now only one trained caseworker for each 23,000 families; for families requiring social services, one caseworker for every 60 families is needed.

Day care for children

Forty-one States have qualified for Federal funds in fiscal 1964 to aid them in establishing or expanding day-care services for children, the Children's Bureau has reported. The funds are authorized under the 1962 Public Welfare Amendments to the Social Security Act; $4 million has been appropriated for fiscal year 1964 and apportioned among the States and outlying Territories.

The number of children needing day-care services is not known at this time, but it is known that the number of working mothers increased by 73 percent between 1950 and 1960 and will increase by an estimated 25 percent between 1960 and 1970. A survey requested by the Children's Bureau in 1958 found that 400,000 children under 12 years old had to look out for themselves while their mothers worked. There is reason to believe that the number is still large.

The new centers will "help to lift the heavy burden of worry" from thousands of working mothers who in the past have not been able to make satisfactory arrangements for the care of their small children, Dr. Ellen Winston, Commissioner of Welfare, said in commenting on State plans.

The amendments to the act require the States to submit plans for using the funds to the Children's Bureau, U.S. Department of Health, Education, and Welfare, and to appoint an advisory committee composed of health, education, and welfare officials from State offices to develop policies governing their day-care services. Legislation in all 41 States authorizes the licensing of day-care facilities.

Film developed by Gallaudet

Gallaudet College's Office of Institutional Research has completed an experimental film for teaching the manual alphabet. The film consists of 17 lessons and does not require an instructor. The first two lessons introduce the alphabet and provide practice in recognizing the form of a letter; the other lessons provide practice in reading words and sentences. The student must learn to operate a self-threading film projector so that he can change the film speed and stop and reverse it.

To help the student to adapt what he learns to reality, the film producers employed several techniques. For instance, they filmed a variety of hands—long ones, stubby ones, young ones, and mature ones—from five different angles.

Two tests have been developed to go along with the film. One tests the student's knowledge of the manual alphabet, the other what he has learned from the film.

Students who enrolled at Gallaudet this year for the first time were the first students to take the first test.

Copies of the film (but not the tests) may be purchased for $400 a print from Gallaudet College, 7th and Florida Avenue NE., Washington, D.C., 20002.

The development of the film, the first of its kind, began in 1962 under a grant from the Office of Education.

Engineering education study

The American Society for Engineering Education is undertaking a 3-year national survey of the curriculums in

engineering schools and the extent of the responsibility of engineers in government and industry through a grant of $300,000 from the National Science Foundation. The major purpose of the study is to find out what kind of education will prepare engineers to meet the needs of society in the next 25 to 50 years.

Education of the nuclear engineer

"Objective Criteria in Nuclear Engineering Education," a recent report prepared by the American Society for Engineering Education and the American Nuclear Society, points out that engineers who direct the use of nuclear energy must receive an education that gives them technical competency and a strong sense of responsibility. The result of a 2-year study by a committee of 37 leading engineers and educators in the field of nuclear energy, the report was prepared for the Atomic Energy Commission. The committee believes that primary responsibility for the education of the nuclear engineer is at the graduate level because of the extensive scope of nuclear engineering. The report delineates the type of education nuclear engineers require and comments on research and development.

Copies of the study may be obtained from the Executive Secretary of the American Society for Engineering Education at the University of Illinois, Urbana, Ill., for 25 cents each.

Former Peace Corpsmen aid delinquency program

Ten former Peace Corps teachers who have completed 2 years of service with the Corps are working with the Washington (D.C.) Action for Youth program. They are serving as panelists on a curriculum development project supported by a grant from the President's Committee on Juvenile Delinquency and Youth Crimes under the Juvenile Delinquency and Youth Offenses Control Act (Public Law 87–274).

The purpose of the project is to develop curriculum materials and specialized training for teachers in disadvantaged areas. It is being conducted at a high school located in an area of the city of lower than average socioeconomic conditions. The former Peace Corps teachers, as a panel, are developing materials and methods through classroom teaching, home visits, and contacts with community agencies. They are using experimental methods and a variety of materials in the classroom. The school's curriculum coordinator is their supervisor, and master teachers are working closely with them, all under the project's director.

The project, which began in September 1963, will run until August 31, 1964.

Operation Niños

More than 9 million children in Latin America are receiving food through Operation Niños, a special Food for Peace program operating in 18 member countries of the Alliance for Progress. About 3.9 million children were already receiving food under the program when it was accelerated last summer at the request of President Kennedy.

Operation Niños is a cooperative undertaking of all the participating countries. Both public and private organizations are contributing in the United States, including the White House Food for Peace Office, the Agency for International Development, the U.S. Department of Agriculture, and many voluntary agencies such as religious and industrial associations. The United States' major contribution is surplus agricultural products. The Latin American countries contribute, in varying degrees, workers, facilities, and food supplements. They are expected to eventually assume more of the costs and responsibilities and to reduce their dependence on outside assistance.

Reports of the success of the program are encouraging to AID officials. Absenteeism in schools has dropped sharply in Peru and Bolivia, for instance. Colombia is conducting an all-out drive to abolish malnutrition.

The Food for Peace office estimates that by the end of next summer about 11.5 million Latin American children—one out of three—will have benefited from Operation Niños.

Selective Service test suspended

The Selective Service College Qualification Test, offered at least once a year from 1951 through academic year 1962–63, has been suspended. The test may be resumed in any future academic year if conditions warrant. According to Selective Service, the test has been suspended this year because of the small number of students tested in recent years; since 1957–58 only one test has been offered in each academic year. In the years between 1951 and 1957, about three tests were given each year. Over half a million students have taken the test since 1951.

Patent Office can offer courses to non-Government attorneys

The U.S. Patent Office, through a ruling of the Comptroller General of the United States, can admit a limited number of persons not employed by the Federal Government to training programs it sponsors for patent attorneys.

The Patent Office appealed for permission to offer courses to non-Government attorneys on the grounds that it could, through such an action, improve the quality of patent applications and, by training patent attorneys, reduce its own loss of trained attorneys to private law firms.

Although the Government Employees Training Act does not authorize the training of persons not employed by the U.S. Government, the Comptroller General ruled that he has no objection to the "attendance of a limited number of outside persons incidental to the necessary and authorized training of Government employees." The Patent Office cannot use the fees it collects to defray training expenses, however. Such fees

must be paid into the general funds of the U.S. Treasury.

A Place to Live

"This is a time and this is a book," Secretary of Agriculture Orville L. Freeman writes in *A Place to Live*, the 1963 Yearbook of Agriculture, "that call for discussion, cooperation, and vision to channel the forces of change in directions that insure that America will always be a good place to live . . . ." The yearbook should stimulate both discussion and actions for it is a penetrating examination of the effects of urbanization and industrialization on American life—on farms, in urban and suburban communities, and in parks and open spaces. It points up the need for all U.S. citizens to cooperate in solving the problems of air and water pollution, planning and zoning, educational and economic opportunities for persons put at a disadvantage by technological changes, and public services, as well as problems in other fields. And it gives examples of attempts to solve such problems in the United States and other countries.

The 79 chapters of the 608-page yearbook were written by nationally recognized authorities in the U.S. Department of Agriculture and other Government agencies, colleges and universities, and public and private organizations. The chapter on education, captioned "Education for All," was written by Henry S. Brunner, specialist in the Division of Higher Education, Office of Education.

Copies of *A Place to Live* are on sale at $3 each at the U.S. Government Printing Office, Washington, D.C., 20402.

Human Rights Week

The United States joined other countries of the world in marking the 15th anniversary of the adoption of the Universal Declaration of Human Rights during Human Rights Week, December 10–17. For the United States it was a special week, for it included Bill of Rights Day, December 15, which marked the 172d anniversary of the adoption of the first 10 amendments to the Constitution of the United States.

Activities were national and local. They included a Presidential proclamation for the week and special messages from State governors and the mayors of many U.S. cities.

In Washington, the National Archives held an exhibit of material pertaining to the late Eleanor Roosevelt, who was closely associated with the drafting of the Universal Declaration; the National Gallery of Art exhibited Human Rights prints by Kathe Kollwitz; and the National Symphony Orchestra performed a work for orchestra and chorus commissioned by the U.S. National Commission for UNESCO to mark the anniversary.

The U.S. National Commission for UNESCO was commissioned by Congress in 1946 to advise the U.S. Government on programs sponsored by United Nations Educational, Scientific, and Cultural Organization and to promote the general objectives of the organization.

U.S.–USSR exchange exhibits

The U.S. and the USSR have exchanged exhibits on graphic arts for showing in each other's countries this winter. The U.S. display—"Graphic Arts: USA"—contains more than 2,000 items of original prints and paintings, including neon signs, which illustrate contemporary trends in this country. In addition to the display, the exhibit includes a modern graphic arts workshop in operation under the direction of an art instructor from Yale University, moving belts carrying 180 of the best U.S. packaging designs, and a small library of graphic arts books.

The U.S. exhibit has been shown in Alma-Ata, is now on display in Moscow, and will be shown in Yerevan in February. The USSR exhibit was shown in New York last month, is now on display in Philadelphia, and will be shown in Milwaukee in January.

This is the fifth exchange of exhibits between the two countries since the signing of an exchange agreement in November of 1959. The other four exhibits were on plastics, transportation, medicine, and technical books.

The U.S. Information Agency prepared the exhibit, with the help of business, industry, and private organizations.

AID programs in Africa

● About 300 African students began 4-year college programs this fall at 213 colleges and universities in the United States under the African Scholarship Program of American Universities sponsored by the Agency for International Development. Under the program, colleges and universities offer scholarships to selected African students, the government from which the students come pays transportation, and AID provides for the administration of the program and the maintenance of the students, including room and board. The African-American Institute, a nonprofit organization, administers the program under contract to AID.

The program is now in its third year; about 800 students are taking part.

● A typical land-grant college in the United States, the University of Illinois, will be the pattern for organization and operation of a new agricultural and educational institution to be developed in Sierra Leone with U.S. assistance. AID has awarded a contract to the university to provide technical assistance to the Government of Sierra Leone during the next 3 years in establishing Njala College. The college will be designed to conduct research and instructional and extension programs adapted to the needs of the country.

The university will send three staff members to work with the faculty of the college by early 1964 and an additional five staff members by the following September.

PUBLICATIONS CHECKLIST

Office of Education

For sale

Order from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. Remittance must accompany order.

Aids for Teaching Science; Suggestions for Starting Process Teaching in Science, by Ellsworth S. Obourn, April 1963, 15 pp. (OE–29044).

The Core Program: Unpublished Research, 1956–1962, by Grace S. Wright, 1963, 58 pp., 40 cents (OE–33030).

The Current Situation in Latin American Education, by Charles C. Hauch, 1963, 30 pp., 15 cents (OE–14080).

Degrees in the Biological and Physical Sciences, Mathematics, and Engineering: 1949–50 Through 1959–60, by Clarence B. Lindquist, 1963, 35 pp., 35 cents (OE–54029).

Education in Yugoslavia and the New Reform: The Legal Basis, Organization, Administration, and Program of the Secondary Schools, by Vera Tomich, 1963, 146 pp., 60 cents (OE–14089).

Fine Arts Education in the Soviet Union, by Mayo Bryce, 1963, 74 pp., 50 cents (OE–14085).

Cooperative Research Projects: Fiscal Year 1962, 1963, 64 pp., 45 cents (OE–12004–62).

Modern Science and Your Child, by William J. Gruver and Albert Piltz, 1963, 40 pp., 25 cents (OE–29048).

Pupil Marks and School Marking Systems: A Selected Bibliography, by Edith S. Greer, 1963, 22 pp., 20 cents (OE–20051).

Research in Reading at the Primary Level: An Annotated Bibliography, by Doris V. Gunderson, 1963, 114 pp., 50 cents (OE–30008).

The School Library as a Materials Center: Educational Needs of Librarians and Teachers in Its Administration and Use (Proceedings of a Conference Under the Auspices of the U.S. Department of Health, Education, and Welfare, Office of Education, Washington, May 16, 17, 18, 1962), edited by Mary Helen Mahar, 1963, 84 pp., 50 cents (OE–15042).

Selected State Programs in Migrant Education, by George E. Haney, 1963, 38 pp., 25 cents (OE–23030).

State Plans Under the Library Services Act, Supplement 3: A Progress Report, the First Five Years, Fiscal Year 1957–61, by the Library Services Branch, 1963, 187 pp., 75 cents (OE–15012–61).

The 2-Year Community College: An Annotated List of Unpublished Studies and Surveys, 1957–61, by D. G. Morrison, Ken August Brunner, and S. V. Martorana, 1963, 41 pp., 20 cents (OE–57005).

The Visually Handicapped Child at Home and School: Developments and Trends in Educational Programs for Blind and Partially Seeing Children, by John Walker Jones, 1963, 55 pp., 25 cents (OE–35045).

Free

Request single copies from the Publications Inquiry Unit, U.S. Office of Education, Washington, D.C., 20202. Please specify publication number. Supply is limited.

The Elementary School in the City: A Conference Report, by the staff of the Elementary Schools Section, 13 pp., reprint from *School Life,* June 1963 (OE–20056).

International Teacher Development Program, 1961–62: Annual report to the Bureau of Educational and Cultural Affairs, U.S. Department of State, by the Teacher Development Section, Educational Exchange and Training Branch, Bureau of International Education, 1963, 57 pp. (OE–14003–62).

Professional Literature for Teachers of Elementary Science, by Paul E. Blackwood and Lorraine F. Kibler, rev. August 1963, 13 pp. (OE–29052).

Other Agencies

Purchase from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402. Remittance must accompany order.

Current history

Aid in Action: How U.S. Aid Lends a Hand Around the World, Department of State, 1961, 62 pp., 25 cents, S 1.71:172.

This booklet describes a few of many encouraging examples of the immediate achievements of U.S. foreign aid.

The American Citizen's Stake in the Progress of Less Developed Areas of the World, Department of State, rev. 1957, 88 pp., 50 cents, S 5.48:Am3.

A discussion outline and work paper sponsored by the U.S. National Commission for the United Nations Educational, Scientific, and Cultural Organization.

American Republics Establish an Alliance for Progress, Department of State, 1961, 10 cents, S 1.26:73.

Presents a statement by the President and the Secretary of the Treasury at the special meeting of the Inter-American Economic and Social Council at Punta Del Este, August 17, 1961, and texts of the Declaration to the Peoples of America and the Charter of Punta del Este.

Chinese Communist World Outlook, 1962, Department of State, 139 pp., 70 cents, S 1.38:112.

A handbook of Chinese Communist statements. It sorts out under reference headings a selection of statements of leaders that reflect the main themes of Chinese Communist ideology.

The Newly Independent Nations:

Cyprus, 1963, Department of State, 4 pp., 5 cents, S 1.86:70.

Gabon Republic, 1963, Department of State, 6 pp., 5 cents, S 1.116:30.

Jamaica, 1963, Department of State, 4 pp., 5 cents, S. 1.26:84.

Islamic Republic of Mauritania, 1963, Department of State, 6 pp., 5 cents, S 1.116:31.

Republic of Congo, 1963, Department of State, 63 pp., 10 cents, S 1.116:32.

Tanganyika, 1963, Department of State, 6 pp., 5 cents, S 1.116:33.

Provide information on the history, government, economy, and education of these nations.

North Korea: A Case Study in the Techniques of Takeover, 1961, Department of State, 121 pp., 60 cents, S 1.38:103.

Report of a State Department research mission on North Korea before the outbreak of hostilities on June 25, 1950. It examines and appraises both the techniques of control employed by the U.S.S.R. in North Korea and the organizational structure of the regime created in that area.

A Pocket Guide to Viet-Nam, Department of Defense, Armed Forces Information and Education Office, 1963, 130 pp., 50 cents, D 2.8:V 67.

A guide for servicemen, this publication furnishes information on the people, customs, government, and points of interest in Viet-Nam.

Guidance

Career Opportunities for Veterinarians in the Agricultural Research Service, Department of Agriculture, 1963, 16 pp., 15 cents, A 1.38:727/4.

A brief description of the Agricultural Research Service and a summary of the activities and accomplishments of the organization. Contains information about the opportunities for careers in veterinary medicine in the ARS.

Employment in the Atomic Energy Field: A 1960 Occupational Survey, Department of Labor, 1961, 36 pp., 30 cents, L. 2.3: 1297.

Survey of employment in the atomic energy field in the spring and summer of 1960.

How To Get and Hold the Right Job, Department of Labor, 1960, 18 pp., 10 cents, L. 7.2:J 57/9/960.

Gives some of the basic elements of getting and holding a job.

Opportunities for Young Engineers in the Bureau of Public Works, Department of Commerce, 1962, 14 pp., 15 cents, C 37.2:En 3/962.

Information on careers for college graduates in the Bureau of Public Roads.

The Role of the Civil Service Commission in Federal Service, Civil Service Commission, 1957, 31 pp., 20 cents, CS 1.48:52/2.

Describes the responsibilities of the Civil Service Commission and the Federal agen-

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cies on such matters as the filling of Federal jobs, separating employees, salary administration and leave, retirement, and other topics.

The Trained Dental Assistant: Facts for Counselors, Public Health Services, 1963, 8 pp., 15 cents, FS 2.2:D 43/13.

Describes the duties, qualifications, and opportunities of a trained dental assistant. Includes a listing of schools and colleges offering training.

The Ways to a Job in Government, Civil Service Commission, 1963, 6 pp., 5 cents, CS 1.48:47/4.

Contains general information about steps to be taken in seeking a job in the Federal civil service and lists addresses to which inquires may be sent.

Health

Facts About Nutrition, Public Health Service, 1963, 24 pp., 15 cents, FS 2.22: N 95.

Discusses important food elements, good sources of vitamins and minerals, infant nutrition, nutrition in pregnancy, and nutrition in old age. Sample menus included.

A Healthy Personality for Your Child, 1952, 23 pp., 20 cents, FS 3.290:337.

Gives some of the conclusions of psychologists, psychiatrists, sociologists, and others on how youngsters' personalities gain health and strength.

Strictly for Teenagers, Public Health Service, 1962, 8 p., 5 cents each, $3.25 per 100 to one address, FS 2.2:2 T 22/2.

A leaflet presenting some important facts about venereal diseases; prepared to answer questions teenagers ask.

Your Children's Feet and Footwear, Public Health Service, 1957, 13 pp., 10 cents, FS 14.118:41.

A helpful guide for selecting the proper footwear for children's feet, from infancy through adolescence. Includes information on the care of the feet.

Science

Astronaut John H. Glenn Orbits the Earth for America, February 20, 1962, National Aeronautics and Space Administration, 1962, 8 pp., 15 cents, NAS 1.2:G48.

Pictorial résumé of Colonel Glenn's orbital flight. Includes a condensation from the transcript of Colonel Glenn's remarks at his press conference on February 23 and photographs of some of the events honoring him after his flight.

Elements of Map Projection, with Applications to Map and Chart Construction, 1945, reprinted 1961, Department of Commerce, 226 pp., $2.75, C 4 19:68/5.

Simple guide to the fundamentals of map projection. The first part treats the theoretical side; the second, the practical construction of some of the most important projections.

Federal Funds for Science XI: Fiscal Years 1961, 1962, 1963, National Science Foundation, 1963, 161 pp., $1, NS 1.18:11.

Report on the growth of funds for military programs, accelerated effort in the field of space, and atomic energy development, and on the funds for federally sponsored scientific and technical information activities.

Fundamentals of Electronics: Air Force Manual 101–8, Department of Defense, 1963, 546 pp., $4, D 301.7:101–8/rep.

Covers the basic principles of electronics the aircraft navigator needs for an understanding of the operation and adjustment of radar equipment.

Geographic Regions of Asia: South and East, 1961, Department of State, 10 pp., 10 cents, S 1.38:108.

An article by G. Etzel Pearcy, Geographer of the Department of State, on the nomenclature of the geographic regions of south, southeast, and east Asia.

Geological Survey Research 1962: Short Papers in Geology, Hydrology, and Topography, Articles 18–239, 1963, Department of the Interior, 189 pp., $1.50, I 19.16:450–E.

A collection of 60 short papers on geology, hydrology, topography, and related sciences reporting on the scientific and economic results of current work by members of the Conservation, Geologic, Topographic, and Water Resources Divisions of the U.S. Geological Survey.

Gulf of Mexico: Its Origin, Waters, and Marine Life, 1954, Department of the Interior, 604 pp., $3.25, I 49.27:89.

A digest of knowledge about the Gulf of Mexico. Contains a historical sketch of the explorations in the gulf and data on its waters and marine life.

The International Geophysical Year in Retrospect, 1959, Department of State, 8 pp., 10 cents, S 1.67:68.

A brief review of the International Geophysical Year and its program.

Laboratory Experiments With Radioisotopes for High School Science Demonstrations, 1958, Atomic Energy Commission, 50 pp., 35 cents, Y 3.At 7:2 R 11/18/958.

Describes 20 laboratory experiments with radioactive isotopes, selected for use in high school courses in biology, chemistry, and physics. Descriptions cover the purpose, materials or apparatus needed, methods, results and sample data, and a discussion of the experiments.

Satellite Information Cards [1963], National Aeronautics and Space Administration, 15 cents a set, NAS 1.2:Sa 8/2.

Six wallet-size photographs of the satellites, OSO, Nimbus, Syncom, Aerile I, TIROS, and OGO. Brief description of satellite given on reverse side of card (2½ by 3⅝ in.).

Selected Readings on Atomic Energy, 1958, Atomic Energy Commission, 74 pp., 30 cents, Y 3 At 7:2 R 22/958.

An annotated bibliography of readings on atomic energy, including publications of the Atomic Energy Commission and its contractors, books for the general reader, periodicals, books for young people, and teaching aids.

A World in Space, National Aeronautics and Space Administration, 1963, 20 pp., 15 cents, NAS 1.23:B–2–63.

Briefly discusses geophysics in space, new astronomy, the universe, life in space, manned flight through space, engineering in space, environment of space, space measurements, and space phenomena on earth.

U.S. Government operations

Directory of Post Offices, Post Office Department, 1963, $2.50, P 1.10/4:963.

Contains lists of postal delivery zone offices; all post offices, branch post offices, and stations arranged alphabetically by States; and Armed Forces post offices. The new edition contains a list of ZIP (Zone Improvement Plan) code numbers and a list of discontinued named stations and branches and a list of post offices with new names.

United States Government Organization Manual, 1963–64, General Services Administration, 1963, $1.75, GS 4.109:963.

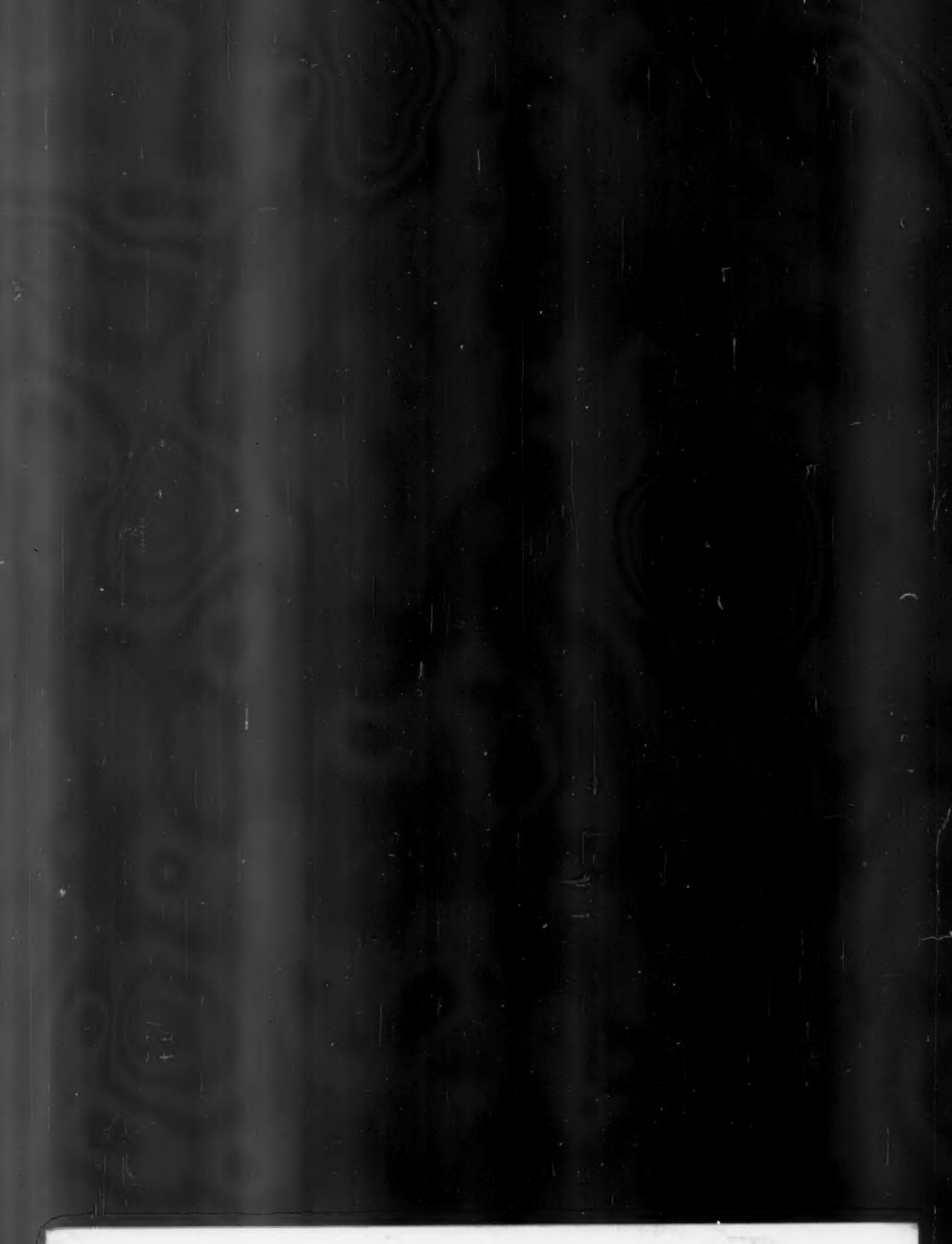
This manual is the official organization handbook of the Federal Government. It covers the creation and authority, organization, and functions of the agencies in the legislative, judicial, and executive branches and of quasi-government agencies. It also includes a print of the U.S. Constitution.

U.S. History

Aztec Ruins National Monument, New Mexico, Department of Interior, 1963, 66 pp., 30 cents, I 29.58:36.

A handbook telling the story of the men in the San Juan Valley—the Basketmakers, the Pueblos, and the Aztec Pueblos. It also describes the explorations and excavations of these ruins and the ruins as they are today.

Civil War Naval Chronology, 1861–1865: Part III—1863, Department of Defense, 1963, 169 pp., $1, D 207.2: C 49/pt. 3.

Gives detailed naval chronology listing by dates the naval events of the Civil War. Includes illustrations representing many of the events.

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